

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 \LaTeX 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 \LaTeX '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 \LaTeX .

```
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{ifpdf}[2006/02/20]
234 \RequirePackage{ifvtex}
235 \RequirePackage{ifxetex}[2006/08/21]
236 \RequirePackage{hycolor}
237 \def\Hy@Warning#1{\PackageWarning{hyperref}{#1}}
238 \def\Hy@WarningNoLine#1{\PackageWarningNoLine{hyperref}{#1}}
239 \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`.

```

240 \@ifundefined{AfterBeginDocument}{%
241 \def\AfterBeginDocument{\AtBeginDocument}%
242 }{}%

```

4.3 Switches

```

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

```

```

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

```

Defaults for the switches are now set.

```

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

```

```

312 \Hy@plainpagesfalse
313 \Hy@raiselinksfalse
314 \Hy@setpagesizetrue
315 \Hy@texhtfalse
316 \Hy@toolbartrue
317 \Hy@typexmlfalse
318 \Hy@unicodetrue
319 \Hy@usetitlefalse
320 \Hy@verbosefalse
321 \Hy@windowuitrue
322 \Hy@displaydoctitlefalse
323 \Hy@pdfafalse

```

5 Common help macros

\Hy@StepCount

```

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

```

\Hy@GlobalStepCount

```

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

326 \newdimen\@linkdim
327 \let\Hy@driver\@empty
328 \let\MaybeStopEarly\relax
329 \newcount\Hy@linkcounter
330 \newcount\Hy@pagecounter
331 \Hy@linkcounter0
332 \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.

```

333 \long\def\Hy@ReturnAfterElseFi#1\else#2\fi{\fi#1}
334 \long\def\Hy@ReturnAfterFi#1\fi{\fi#1}

335 \let\Hy@ReturnEnd\@empty
336 \long\def\Hy@ReturnAfterFiFiEnd#1\fi#2\Hy@ReturnEnd{\fi\fi#1}
337 \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.

```

338 \def\Hy@safe@activetrue{\csname @safe@activetrue\endcsname}
339 \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).

\hypercaltcbp The user macro \hypercaltcbp can be used, for example, inside option values:
 pdfstartview={FitBH \hypercaltcbp{\paperheight-\topmargin-1in}}

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

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

```

```

374 }%
375 \else
376   \def\hypercalcbp#1{%
377     \strip@pt\dimexpr 0.99626401\dimexpr #1\relax\relax
378   }%
379   \def\hypercalcbpdef{\def}%
380 \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 \TeX '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 \TeX 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 \TeX 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 \TeX , because the tokens have only catcodes 10 until 12.

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

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

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

```
382 \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.

```
383 \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.

```
384 \edef\0{\string\0}%
```

```
385 \edef\1{\string\1}%
```

```
386 \edef\2{\string\2}%
```

```
387 \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.

```
388 \ifHy@unicode
```

```
389 \edef\8{\string\8}%
```

```
390 \edef\9{\string\9}%
```

```
391 \fontencoding{PU}%
```

```
392 \HyPsd@UTFviii
```

```
393 \else
```

```
394 \fontencoding{PD1}%
```

```
395 \fi
```

```
396 \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).

```
397 \@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).

```
398 \let\@inmathwarn\HyPsd@inmathwarn
```

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

```
399 \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.

```
400 \let\{\textbraceleft
401 \let\}\textbraceright
402 \let\\\textbackslash
403 \let\#\textnumbersign
404 \let\$\textdollar
405 \let\%\textpercent
406 \let\&\textampersand
407 % \let\~\textasciitilde
408 \let\_ \textunderscore
409 \let\textparagraph
410 \let\ldots\textellipsis
411 \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.

```
412 \def\{\pdfstringdefWarn\\}%
413 \def\newline{\pdfstringdefWarn\newline}%
```

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

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

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

```

421 \let\emph\@firstofone
422 \let\textnormal\@firstofone
423 \let\textrm\@firstofone
424 \let\textsf\@firstofone
425 \let\texttt\@firstofone
426 \let\textbf\@firstofone
427 \let\textmd\@firstofone
428 \let\textit\@firstofone
429 \let\textsc\@firstofone
430 \let\textsl\@firstofone
431 \let\textup\@firstofone
432 \let\normalfont\@empty
433 \let\rmfamily\@empty
434 \let\sffamily\@empty
435 \let\ttfamily\@empty
436 \let\bfseries\@empty
437 \let\mdseries\@empty
438 \let\itshape\@empty
439 \let\scshape\@empty
440 \let\slshape\@empty
441 \let\upshape\@empty
442 \let\em\@empty
443 \let\rm\@empty
444 \let\Huge\@empty
445 \let\LARGE\@empty
446 \let\Large\@empty
447 \let\footnotesize\@empty
448 \let\huge\@empty
449 \let\large\@empty
450 \let\normalsize\@empty
451 \let\scriptsize\@empty
452 \let\small\@empty
453 \let\tiny\@empty
454 \let\mathversion\@gobble

```

Package color.

```

455 \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).

```

456 \let\textlatin\@firstofone
457 \@ifundefined{language@group}{-}{%
458 \csname HyPsd@babel@language@group\endcsname
459 }%
460 \HyPsd@GreekPatch
461 \let\@safe@activetrue\relax
462 \let\@safe@activesfalse\relax

```

Disable \cyr, used in russianb.ldf.

```

463 \let\cyr\relax

```

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

```

464 \let\es@roman\@Roman

```

Package german.

```

465 \let\glqq\textglqq
466 \let\grqq\textgrqq
467 \let\glq\textglq
468 \let\grq\textgrq
469 \let\flqq\textflqq
470 \let\frqq\textfrqq
471 \let\flq\textflq
472 \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}

473 \let\if@mid@expandable\@firstoftwo

```

AMS classes.

```

474 \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.

```

475 \let\hspace\HyPsd@hspace

```

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

```

476 \let\label\@gobble
477 \let\index\@gobble
478 \let\glossary\@gobble
479 \let\href\@secondoftwo
480 \let\mkboth\@gobbletwo

```

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

```

481 \let\ref\HyPsd@ref
482 \let\pageref\HyPsd@pageref
483 \let\nameref\HyPsd@nameref
484 \let\autoref\HyPsd@autoref

```

Miscellaneous commands.

```

485 \let\leavevmode\@empty
486 \let\mbox\@empty

```

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

```

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

```

Patch for cjk bookmarks.

```

488 \ifHy@CJKbookmarks
489 \HyPsd@CJKhook
490 \fi

```

User hook. The switch `\Hy@pdfstring` is turned on. So user commands can detect that they are processed not to be typeset 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`).

```
491 \Hy@pdfstringtrue
492 \pdfstringdefPreHook
```

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

```
493 \HyPsd@LetUnexpandableSpace\space
494 \HyPsd@LetUnexpandableSpace\ %
495 \HyPsd@LetUnexpandableSpace~%
496 \HyPsd@LetUnexpandableSpace\nobreakspace
```

Package `xspace`.

```
497 \@ifundefined{@xspace}{%
498 \let\xspace\HyPsd@ITALCORR
499 }{%
500 \let\xspace\HyPsd@XSPACE
501 }%
502 \let\/\HyPsd@ITALCORR
503 \let\bgroup\/%
504 \let\egroup\/%
```

Redefinitions of miscellaneous commands. Hyphenation does not make sense.

```
505 \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:

```
506 \let\@ifnextchar\HyPsd@ifnextchar
507 \let\@ifnextchar\HyPsd@new@ifnextchar
508 \let\@protected@testopt\HyPsd@protected@testopt
```

Support for package 'xargs':

```
509 \let\@protected@testopt@xargs\HyPsd@protected@testopt
```

6.2.2 Expansion

There are several possibilities to expand tokens within \LaTeX :

`\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 \TeX 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. \TeX 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 \LaTeX '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 PD1 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).

```

510   \begingroup
511   \let\GenericError\@gobblefour
512   \let\GenericWarning\@gobbletwo
513   \let\GenericInfo\@gobbletwo

```

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

```

514   \ifx\nofrenchguillemets\@undefined
515   \else
516   \nofrenchguillemets
517   \fi

```

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

```

518   \let\Hy@temp\xdef
519   \let\def\HyPsd@DefCommand
520   \let\gdef\HyPsd@DefCommand
521   \let\edef\HyPsd@DefCommand
522   \let\xdef\HyPsd@DefCommand
523   \let\futurelet\HyPsd@LetCommand
524   \let\let\HyPsd@LetCommand
525   \Hy@temp#1{#2}%
526   \endgroup

```

6.2.3 Postprocessing

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

```
527 \ifx#1\@empty
528 \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 take the following item into account, that makes things a little 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 found 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.

```
529 \HyPsd@ProtectSpaces#1%
530 \let\HyPsd@String\@empty
531 \expandafter\HyPsd@RemoveBraces\expandafter{#1}%
532 \global\let#1\HyPsd@String
```

Check tokens. After removing the spaces and the grouping characters the string now should only consist 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.

```
533 \let\HyPsd@SPACEOPTI\relax
534 {%
535 \let\HyPsd@String\@empty
536 \expandafter\HyPsd@CheckCatcodes#1\HyPsd@End
537 \global\let#1\HyPsd@String
538 }%
539 \expandafter\HyPsd@RemoveMask\expandafter
540 |\expandafter\@empty#1\HyPsd@End#1%
```

\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.

```
541 \expandafter\HyPsd@Subst\expandafter{\HyPsd@GLYPHERR}{\relax}#1%
542 \let\HyPsd@String\@empty
543 \expandafter\HyPsd@GlyphProcess#1\relax\@empty
544 \global\let#1\HyPsd@String
```

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

```
545 \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.lfd can produce an additional space before \guillemotright, because \lastskip and \unskip do not work. Therefore it is removed here.

```
546 \ifHy@unicode
547 \expandafter\HyPsd@StringSubst\csname 80\040\endcsname
548 \HyPsd@SPACEOPTI#1%
549 \edef\Hy@temp@A{\HyPsd@SPACEOPTI\HyPsd@SPACEOPTI\80\273}%
550 \expandafter\HyPsd@Subst\expandafter{\Hy@temp@A}%
551 {\HyPsd@SPACEOPTI\80\273}#1%
552 \else
553 \HyPsd@StringSubst{\040}\HyPsd@SPACEOPTI#1%
554 \expandafter\HyPsd@Subst\expandafter{%
555 \expandafter\HyPsd@SPACEOPTI\expandafter\HyPsd@SPACEOPTI
556 \string\273}\HyPsd@SPACEOPTI\273}#1%
557 \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.

```
558 \ifHy@unicode
559 \HyPsd@StringSubst{\)}{\80\051}#1%
560 \HyPsd@Subst){\80\051}#1%
561 \let\HyPsd@empty\relax
562 \expandafter\HyPsd@StringSubst\csname 80\051\endcsname
563 {\HyPsd@empty\80\051}#1%
564 \else
565 \HyPsd@StringSubst{\)}{\051}#1%
566 \HyPsd@Subst){\051}#1%
567 \let\HyPsd@empty\relax
```

```

568      \HyPsd@StringSubst{\051}{\HyPsd@empty\string\)}#1%
569      \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`.

```

570      \expandafter\HyPsd@Subst\expandafter{\}/\HyPsd@empty#1%
571      \@ifundefined{xspace}{%
572      }{%
573      \let\HyPsd@xspace\relax
574      \expandafter\HyPsd@Subst\expandafter
575      {\HyPsd@XSPACE}\HyPsd@xspace#1%
576      \let\HyPsd@xspace\HyPsd@doxspace
577      }%
578      \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.

```

579 %      \HyPsd@Subst{---}\textemdash#1%
580 %      \HyPsd@Subst{--}\textendash#1%
581 %      \HyPsd@Subst{fi}\textfi#1%
582 %      \HyPsd@Subst{fl}\textfl#1%
583      \HyPsd@Subst{!'}\texttexclamdown#1%
584      \HyPsd@Subst{?'}\textquestiondown#1%

```

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

```

585      \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.

```

586      \ifHy@unicode
587      \HyPsd@StringSubst{\textparenleft#1%
588      \HyPsd@Subst{\textparenleft#1%
589      \else
590      \HyPsd@StringSubst{\(\050}#1%
591      \HyPsd@Subst{\050}#1%
592      \HyPsd@StringSubst{\050}{\string\)}#1%

```



```
593 \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.

```
594 \ifHy@unicode
595 \edef\HyPsd@SPACEOPTI{\80\040}%
596 \else
597 \let\HyPsd@SPACEOPTI\HyPsd@spaceopti
598 \fi
599 \xdef#1{#1\@empty}%
600 \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.

```
601 \endgroup
602 \begingroup
603 \ifHy@unicode
604 \HyPsd@ConvertToUnicode#1%
```

Try conversion back to PDFDocEncoding.

```
605 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
606 \ifundefined{StringEncodingConvertTest}{%
607 }{%
608 \EdefUnescapeString\HyPsd@temp#1%
609 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
610 {utf16be}{pdfdoc}{%
611 \EdefEscapeString\HyPsd@temp\HyPsd@temp
612 \global\let#1\HyPsd@temp
613 \Hy@unicodedefalse
614 }{}%
615 }%
616 \fi
617 \fi
```

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

```
618 \pdfstringdefPostHook#1%
619 \endgroup
620 }
```

```
\Hy@pdfstringdef
```

```
621 \def\Hy@pdfstringdef#1#2{%
622 \pdfstringdef\Hy@gtemp{#2}%
623 \let#1\Hy@gtemp
624 }
```

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 inter-

preting 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.

```
625 \ifundefined{T@PD1}{\input{pd1enc.def}}{}
626 \DeclareFontFamily{PD1}{pdf}{}
627 \DeclareFontShape{PD1}{pdf}{m}{n}{ <-> cmr10 }{}
628 \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.

```
629 \def\HyPsd@InitUnicode{%
630   \ifundefined{T@PU}{\input{puenc.def}}{}%
631   \DeclareFontFamily{PU}{pdf}{}%
632   \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%
633   \DeclareFontSubstitution{PU}{pdf}{m}{n}%
634   \let\HyPsd@InitUnicode\relax
635 }
```

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.

```
636 \newcommand*{\texorpdfstring}{%
637   \ifHy@pdfstring
638     \expandafter\@secondoftwo
639   \else
640     \expandafter\@firstoftwo
641   \fi
642 }
```

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`.

```
643 \ifundefined{pdfstringdefPreHook}{%
644   \let\pdfstringdefPreHook\empty
645 }{}
646 \ifundefined{pdfstringdefPostHook}{%
647   \let\pdfstringdefPostHook\gobble
648 }{}
```

`\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`.

```
649 \def\pdfstringdefDisableCommands{%
650   \begingroup
651     \makeatletter
652     \HyPsd@DisableCommands
653 }
```

`\HyPsd@DisableCommands`

```
654 \long\def\HyPsd@DisableCommands#1{%
655   \toks0=\expandafter{\pdfstringdefPreHook}%
656   \toks1={#1}%
657   \xdef\pdfstringdefPreHook{\the\toks0 \the\toks1}%
658   \endgroup
659 }
```

`\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`.

```
660 \def\pdfstringdefWarn#1{%
661   \expandafter\noexpand\csname\<>-\string#1\endcsname
662 }
```

6.5 Help macros for expansion

6.5.1 Babel languages

```
663 \newif\ifHy@next
```

Nothing to do for english.

```
664 \@ifundefined{danish@sh@"@sel}{-}{-}%
665 \def\HyPsd@babel@danish{%
666   \declare@shorthand{danish}{|}{-}%
667   \declare@shorthand{danish}{~}{-}%
668 }%
669 }
670 \@ifundefined{dutch@sh@"@sel}{-}{-}%
671 \def\HyPsd@babel@dutch{%
```

```

672     \declare@shorthand{dutch}{"}{|}%
673     \declare@shorthand{dutch}{"}{|}%
674 }%
675 }
676 \@ifundefined{finnish@sh@}{@sel}{|}%
677 \def\HyPsd@babel@finnish{%
678     \declare@shorthand{finnish}{"}{|}%
679 }%
680 }
681 \@ifundefined{french@sh@}{@sel}{|}%
682 \def\HyPsd@babel@frenchb{%
683     \def\guill@spacing{ }%
684 }%
685 }
686 \@ifundefined{german@sh@}{@sel}{|}%
687 \def\HyPsd@babel@german{%
688     \declare@shorthand{german}{"}{|}%
689     \declare@shorthand{german}{"}{|}%
690     \declare@shorthand{german}{"}{|}%
691 }%
692 }
693 \@ifundefined{macedonian@sh@}{@sel}{|}%
694 \def\HyPsd@babel@macedonian{%
695     \declare@shorthand{macedonian}{"}{|}%
696     \declare@shorthand{macedonian}{"}{|}%
697 }%
698 }{}
699 \@ifundefined{ngerman@sh@}{@sel}{|}%
700 \def\HyPsd@babel@ngerman{%
701     \declare@shorthand{ngerman}{"}{|}%
702     \declare@shorthand{ngerman}{"}{|}%
703 }%
704 }
705 \@ifundefined{portuges@sh@}{@sel}{|}%
706 \def\HyPsd@babel@portuges{%
707     \declare@shorthand{portuges}{"}{|}%
708 }%
709 }
710 \@ifundefined{russian@sh@}{@sel}{|}%
711 \def\HyPsd@babel@russian{%
712     \declare@shorthand{russian}{"}{|}%
713     \declare@shorthand{russian}{"}{|}%
714 }%
715 }
716 \@ifundefined{slovene@sh@}{@sel}{|}%
717 \def\HyPsd@babel@slovene{%
718     \declare@shorthand{slovene}{"}{|}%
719 }%
720 }

```

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

```

721 \@ifundefined{spanish@sh@}{@sel}{|}%
722 \def\HyPsd@babel@spanish{%
723     \declare@shorthand{spanish}{<<}{\guillemotleft}%
724     \declare@shorthand{spanish}{>>}{\guillemotright}%
725     \declare@shorthand{spanish}{=}{-}%
726     \declare@shorthand{spanish}{~}{-}%
727     \declare@shorthand{spanish}{!}{\textexclamdown}%

```

```

728 \declare@shorthand{spanish}{"}{\textquestiondown}%
729 }%
730 }
731 \@ifundefined{swedish@sh@"@sel}{}{%
732 \def\HyPsd@babel@swedish{%
733 \declare@shorthand{swedish}{"}{}%
734 \declare@shorthand{swedish}{"}{-}%
735 }%
736 }
737 \@ifundefined{ukrainian@sh@"@sel}{}{%
738 \def\HyPsd@babel@ukrainian{%
739 \declare@shorthand{ukrainian}{"}{}%
740 \declare@shorthand{ukrainian}{"}{-}%
741 }%
742 }
743 \@ifundefined{usorbian@sh@"@sel}{}{%
744 \def\HyPsd@babel@usorbian{%
745 \declare@shorthand{usorbian}{f}{f}%
746 \declare@shorthand{usorbian}{"}{}%
747 }%
748 }
749 \@ifundefined{greek@sh@\string~@sel}{%
750 \let\HyPsd@GreekPatch\@empty
751 }{%
752 \def\HyPsd@GreekPatch{%
753 \let\greeknumeral\HyPsd@greeknumeral
754 \let\Greeknnumeral\HyPsd@Greeknnumeral
755 }%
756 }
757 \def\HyPsd@greeknumeral#1{%
758 \HyPsd@GreekNum\@firstoftwo{#1}%
759 }
760 \def\HyPsd@Greeknnumeral#1{%
761 \HyPsd@GreekNum\@secondoftwo{#1}%
762 }
763 \def\HyPsd@GreekNum#1#2{%
764 \ifHy@unicode
765 \ifnum#2<\@one
766 \@arabic{#2}%
767 \else
768 \ifnum#2<1000000 %
769 \HyPsd@@GreekNum#1{#2}%
770 \else
771 \@arabic{#2}%
772 \fi
773 \fi
774 \else
775 \@arabic{#2}%
776 \fi
777 }
778 \def\HyPsd@@GreekNum#1#2{%
779 \ifnum#2<\@m
780 \ifnum#2<10 %
781 \expandafter\HyPsd@GreekNumI
782 \expandafter\@gobble\expandafter#1\number#2%
783 \else
784 \ifnum#2<100 %

```

```

785         \expandafter\HyPsd@GreekNumII
786         \expandafter\@gobble\expandafter#1\number#2%
787     \else
788         \expandafter\HyPsd@GreekNumIII
789         \expandafter\@gobble\expandafter#1\number#2%
790     \fi
791 \fi
792 \ifnum#2>\z@
793     \textnumeralsigngreek
794 \fi
795 \else
796     \ifnum#2<\@M
797         \expandafter\HyPsd@GreekNumIV\expandafter#1\number#2%
798     \else
799         \ifnum#2<100000 %
800             \expandafter\HyPsd@GreekNumV\expandafter#1\number#2%
801         \else
802             \expandafter\HyPsd@GreekNumVI\expandafter#1\number#2%
803         \fi
804     \fi
805 \fi
806 }
807 \def\HyPsd@GreekNumI#1#2#3{%
808     #1{%
809         \ifnum#3>\z@
810             \textnumeralsignlowergreek
811         \fi
812     }%
813     \expandafter#2%
814     \ifcase#3 %
815         {}{}%
816         \or\textalpha\textAlpha
817         \or\textbeta\textBeta
818         \or\textgamma\textGamma
819         \or\textdelta\textDelta
820         \or\textepsilon\textEpsilon
821         \or\textstigmagreek\textStigmagreek
822         \or\textzeta\textZeta
823         \or\texteta\textEta
824         \or\texttheta\textTheta
825     \else
826         {}{}%
827     \fi
828 }
829 \def\HyPsd@GreekNumII#1#2#3#4{%
830     #1{%
831         \ifnum#3>\z@
832             \textnumeralsignlowergreek
833         \fi
834     }%
835     \expandafter#2%
836     \ifcase#3 %
837         {}{}%
838         \or\textiota\textIota
839         \or\textkappa\textKappa
840         \or\textlambda\textLambda
841         \or\textmu\textMu

```

```

842 \or\textnu\textNu
843 \or\textxi\textXi
844 \or\textomicron\textOmicron
845 \or\textpi\textPi
846 \or\textkoppagreek\textKoppagreek
847 \else
848   {}{}%
849 \fi
850 \HyPsd@GreekNumI#1#2#4%
851 }
852 \def\HyPsd@GreekNumIII#1#2#3#4#5{%
853   #1{%
854     \ifnum#3>\z@
855       \textnumeralsignlowergreek
856     \fi
857   }%
858   \expandafter#2%
859   \ifcase#3 %
860     {}{}%
861     \or\textrho\textRho
862     \or\textsigma\textSigma
863     \or\texttau\textTau
864     \or\textupsilon\textUpsilon
865     \or\textphi\textPhi
866     \or\textchi\textChi
867     \or\textpsi\textPsi
868     \or\textomega\textOmega
869     \or\textsampigreek\textSampigreek
870   \else
871     {}{}%
872   \fi
873   \HyPsd@GreekNumII#1#2#4#5%
874 }
875 \def\HyPsd@GreekNumIV#1#2#3#4#5{%
876   \HyPsd@GreekNumI\@firstofone#1#2%
877   \HyPsd@@GreekNum#1{#3#4#5}%
878 }
879 \def\HyPsd@GreekNumV#1#2#3#4#5#6{%
880   \HyPsd@GreekNumII\@firstofone#1#2#3%
881   \HyPsd@@GreekNum#1{#4#5#6}%
882 }
883 \def\HyPsd@GreekNumVI#1#2#3#4#5#6#7{%
884   \HyPsd@GreekNumIII\@firstofone#1#2#3#4%
885   \HyPsd@@GreekNum#1{#5#6#7}%
886 }

```

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 ($\geq 0x40$).

```

887 \begingroup
888   \catcode"7F=\active
889   \toks@{%
890     \let\CJK@ignorespaces\empty
891     \def\CJK@char#1{\@gobbletwo}%
892     \let\CJK@charx\@gobblefour
893     \let\CJK@punctchar\@gobblefour
894     \def\CJK@punctcharx#1{\@gobblefour}%
895     \catcode"7F=\active
896     \def^^7f#1^^7f#2^^7f{%
897       \string #1\HyPsd@DecimalToOctal{#2}%
898     }%
899     % ... ?
900     \ifHy@unicode
901       \def\Hy@cjkpu{\80}%
902     \else
903       \let\Hy@cjkpu\@empty
904     \fi
905     \HyPsd@CJKActiveChars
906   }%
907   \count@=127 %
908   \@whilenum\count@<255 \do{%
909     \advance\count@ by 1 %
910     \lccode'\~= \count@
911     \lowercase{%
912       \toks@\expandafter{\the\toks@ ~}%
913     }%
914   }%
915   \toks@\expandafter{\the\toks@ !}%
916   \xdef\HyPsd@CJKhook{\the\toks@}%
917 \endgroup

```

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

```

918 \def\HyPsd@CJKActiveChars#1{%
919   \ifx#1!%
920     \let\HyPsd@CJKActiveChars\relax
921   \else
922     \edef#1{\noexpand\Hy@cjkpu\string#1}%
923   \fi
924   \HyPsd@CJKActiveChars
925 }

```

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

```

926 \def\HyPsd@DecimalToOctal#1{%
927   \ifcase #1 %
928     \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
929     \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
930     \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
931     \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
932     \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
933     \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
934     \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
935     \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
936     \or @\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 \133\or \134\or \135\or \136\or \137%
940 \or \140\or a\or b\or c\or d\or e\or f\or g%
941 \or h\or i\or j\or k\or l\or m\or n\or o%
942 \or p\or q\or r\or s\or t\or u\or v\or w%
943 \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
944 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
945 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
946 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
947 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
948 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
949 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
950 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
951 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
952 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
953 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
954 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
955 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
956 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
957 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
958 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
959 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
960 \fi
961 }

```

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 L^AT_EX 2_ε 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 (L^AT_EX 2_ε 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}

```

```

\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}

962 \def\HyPsd@inmathwarn#1#2{%
963   \ifx#2\expandafter
964     \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
965       \HyPsd@GLYPHERR
966       \expandafter\@gobble\string#1%
967       >%
968       \expandafter\expandafter\expandafter\HyPsd@EndWithElse
969     \else
970       \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
971     \fi
972   \else
973     \expandafter#2%
974   \fi
975 }
976 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
977 \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
978 \def\HyPsd@add@accent#1#2{%
979   \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
980   #2%
981 }%

```

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.

```

982 \def\HyPsd@LetUnexpandableSpace#1{%
983   \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
984 }

```

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

```

985 \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.

```
986 \edef\HyPsd@XSPACE{\string#\string X}
987 \edef\HyPsd@ITALCORR{\string#\string I}
988 \edef\HyPsd@GLYPHERR{\string#\string G}
```

6.5.7 `\hspace` fix

`\HyPsd@hspace`

```
989 \def\HyPsd@hspace#1{\HyPsd@@hspace#1*\END}
```

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

```
990 \def\HyPsd@@hspace#1*#2\END{%
991   \ifx\#2\%
992     \HyPsd@hspacetest{#1}%
993   \else
994     \expandafter\HyPsd@hspacetest
995   \fi
996 }
```

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

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

6.5.8 Fix for AMS classes

```
998 \@ifundefined{tocsection}{%
999   \let\HyPsd@AMSclassfix\relax
1000 }{%
1001   \def\HyPsd@AMSclassfix{%
1002     \let\tocpart\HyPsd@tocsection
1003     \let\tocchapter\HyPsd@tocsection
1004     \let\tocappendix\HyPsd@tocsection
1005     \let\tocsection\HyPsd@tocsection
1006     \let\tocsubsection\HyPsd@tocsection
1007     \let\tocsubsubsection\HyPsd@tocsection
1008     \let\tocparagraph\HyPsd@tocsection
1009   }%
1010   \def\HyPsd@tocsection#1#2#3{%
1011     \if @#2@\else\if @#1@\else#1 \fi#2. \fi
1012     #3%
1013   }%
1014 }
```

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.

```
1015 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%
```

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

```
1016 \def\HyPsd@@ref#1*#2\END{%
```

```

1017 \ifx\#2\%
1018 \HyPsd@@@ref{#1}%
1019 \else
1020 \expandafter\HyPsd@@@ref
1021 \fi
1022 }%

\HyPsd@@@ref \HyPsd@@@ref does the work and extracts the first argument.
1023 \def\HyPsd@@@ref#1{%
1024 \expandafter\ifx\csname r@#1\endcsname\relax
1025 ??%
1026 \else
1027 \expandafter\expandafter\expandafter
1028 \@car\csname r@#1\endcsname\@nil
1029 \fi
1030 }

\HyPsd@pageref Macro \HyPsd@pageref calls the macro \HyPsd@@pageref for star checking. The same
methods like in \HyPsd@hspace is used.
1031 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*END}

\HyPsd@@pageref Macro \HyPsd@@pageref checks if a star is present.
1032 \def\HyPsd@@pageref#1*#2END{%
1033 \ifx\#2\%
1034 \HyPsd@@@pageref{#1}%
1035 \else
1036 \expandafter\HyPsd@@@pageref
1037 \fi
1038 }

\HyPsd@@@pageref \HyPsd@@@pageref does the work and extracts the second argument.
1039 \def\HyPsd@@@pageref#1{%
1040 \expandafter\ifx\csname r@#1\endcsname\relax
1041 ??%
1042 \else
1043 \expandafter\expandafter\expandafter\expandafter
1044 \expandafter\expandafter\expandafter\@car
1045 \expandafter\expandafter\expandafter\@gobble
1046 \csname r@#1\endcsname{}\@nil
1047 \fi
1048 }

\HyPsd@nameref Macro \HyPsd@nameref calls the macro \HyPsd@@nameref for star checking. The same
methods like in \HyPsd@hspace is used.
1049 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*END}

\HyPsd@@nameref Macro \HyPsd@@nameref checks if a star is present.
1050 \def\HyPsd@@nameref#1*#2END{%
1051 \ifx\#2\%
1052 \HyPsd@@@nameref{#1}%
1053 \else
1054 \expandafter\HyPsd@@@nameref
1055 \fi
1056 }

```

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

```

1057 \def\HyPsd@@@nameref#1{%
1058   \expandafter\ifx\csname r@#1\endcsname\relax
1059     ??%
1060   \else
1061     \expandafter\expandafter\expandafter\expandafter
1062     \expandafter\expandafter\expandafter\@car
1063     \expandafter\expandafter\expandafter\@gobbletwo
1064     \csname r@#1\endcsname\}\}\@nil
1065   \fi
1066 }

```

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

```

1067 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*\END}

```

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

```

1068 \def\HyPsd@@autoref#1*#2\END{%
1069   \ifx\#2\%
1070     \HyPsd@@@autoref{#1}%
1071   \else
1072     \expandafter\HyPsd@@@autoref
1073   \fi
1074 }

```

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

```

1075 \def\HyPsd@@@autoref#1{%
1076   \expandafter\ifx\csname r@#1\endcsname\relax
1077     ??%
1078   \else
1079     \expandafter\expandafter\expandafter\HyPsd@autorefname
1080     \csname r@#1\endcsname\}\}\}\@nil
1081     \expandafter\expandafter\expandafter
1082     \@car\csname r@#1\endcsname\@nil
1083   \fi
1084 }

```

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

```

1085 \def\HyPsd@autorefname#1#2#3#4#5\@nil{%
1086   \ifx\#4\%
1087   \else
1088     \HyPsd@@autorefname#4.\@nil
1089   \fi
1090 }

```

`\HyPsd@@autorefname`

```

1091 \def\HyPsd@@autorefname#1.#2\@nil{%
1092   \@ifundefined{#1autorefname}\%
1093   \@ifundefined{#1name}\%
1094   }\%
1095   \csname#1name\endcsname\space
1096   }\%
1097   }\%
1098   \csname#1autorefname\endcsname\space
1099   }\%
1100 }

```

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 unmatched `\if...` tokens, the cases `\let\if...\iftrue` and `\let\if...\iffalse` are checked and ignored.

```
\HyPsd@DefCommand
\HyPsd@LetCommand
1101 \begingroup
1102   \def\x#1#2{%
1103     \endgroup
1104     \let#1\def
1105     \def\HyPsd@DefCommand##1##2##{%
1106       #1%
1107       \expandafter\noexpand
1108         \csname\expandafter\@gobble\string##1\@empty\endcsname
1109       \@gobble
1110     }%
1111     \let#2\let
1112     \def\HyPsd@@LetCommand##1{%
1113       \expandafter\ifx\csname##1\expandafter\endcsname
1114         \csname iftrue\endcsname
1115       \pdfstringdefWarn\let
1116       \expandafter\@gobble
1117     \else
1118       \expandafter\ifx\csname##1\expandafter\endcsname
1119         \csname iffalse\endcsname
1120       \pdfstringdefWarn\let
1121       \expandafter\expandafter\expandafter\@gobble
1122     \else
1123       #2%
1124       \expandafter\noexpand
1125       \csname##1\expandafter\expandafter\expandafter\endcsname
```

```

1126      \fi
1127      \fi
1128    }%
1129  }%
1130 \expandafter\x\csname <def>-command\expandafter\endcsname
1131      \csname <let>-command\endcsname
1132 \def\HyPsd@LetCommand#1{%
1133   \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1134   \expandafter\expandafter\expandafter{%
1135     \expandafter\@gobble\string#1\@empty
1136   }%
1137 }

```

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.

```

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

```

`\HyPsd@new@ifnextchar` Package `amsgen.sty` redefines `\@ifstar` using `\new@ifnextchar` instead of `\@ifnextchar`. See bug report latex/3662.

```

1142 \def\HyPsd@new@ifnextchar{%
1143   \pdfstringdefWarn\new@ifnextchar
1144   \expandafter\@gobbletwo\@gobble
1145 }

```

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`.

```

1146 \def\HyPsd@protected@testopt#1{%
1147   \pdfstringdefWarn#1%
1148   \@gobbletwo
1149 }

```

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:

```

1150 \def\HyPsd@Warning#1{%
1151   \begingroup
1152     \def\space{ }%
1153     \Hy@Warning{#1}%
1154   \endgroup
1155 }

```

6.6.2 Protecting spaces

```

1156 \RequirePackage{etexcmds}[2007/09/09]
1157 \ifetex@unexpanded
1158   \expandafter\@secondoftwo
1159 \else
1160   \expandafter\@firstoftwo
1161 \fi
1162 {%

```

`\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`.

```

1163   \def\HyPsd@ProtectSpaces#1{%
1164     \iftrue
1165       \expandafter\HyPsd@@ProtectSpacesFi
1166       \expandafter|\expandafter\@empty#1| \HyPsd@End#1%
1167     \fi
1168   }%

```

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

```

1169   \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@End#3\fi{%
1170     \fi
1171     \ifx\scrollmode#2\scrollmode
1172       \HyPsd@RemoveMask#1\HyPsd@End#3%
1173     \else
1174       \gdef#3{#1\HyPsd@UnexpandableSpace#2}%
1175       \expandafter\HyPsd@@ProtectSpacesFi#3\HyPsd@End#3%
1176     \fi
1177   }%

```

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.

```

1178   \def\HyPsd@RemoveMask#1|\HyPsd@End#2{%
1179     \toks@\expandafter{#1}%
1180     \xdef#2{\the\toks@}%
1181   }%

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

```



```

1199 \HyPsd@fi
1200 }%
1201 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1202 \xdef#2{\etex@unexpanded\expandafter{#1}}%
1203 }%
1204 }

```

6.6.3 Remove grouping braces

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

```

1205 \def\HyPsd@RemoveBraces#1{%
1206 \ifx\scrollmode#1\scrollmode
1207 \else
1208 \HyPsd@@RemoveBracesFi#1\HyPsd@End{#1}%
1209 \fi
1210 }

```

`\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`.

```

1211 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%
1212 \fi
1213 \def\Hy@temp@A{#1#2}%
1214 \def\Hy@temp@B{#3}%
1215 \ifx\Hy@temp@A\Hy@temp@B
1216 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1217 \HyPsd@String#1%
1218 }%
1219 \ifx\scrollmode#2\scrollmode
1220 \else
1221 \Hy@ReturnAfterFiFiEnd{%
1222 \HyPsd@RemoveBraces{#2}%
1223 }%
1224 \fi
1225 \else
1226 \def\Hy@temp@A{#1}%
1227 \HyPsd@AppendItalcorr\HyPsd@String
1228 \ifx\Hy@temp@A\empty
1229 \Hy@ReturnAfterElseFiFiEnd{%
1230 \HyPsd@RemoveBraces{#2}%
1231 }%
1232 \else
1233 \HyPsd@ProtectSpaces\Hy@temp@A
1234 \HyPsd@AppendItalcorr\Hy@temp@A
1235 \Hy@ReturnAfterFiFiEnd{%
1236 \expandafter\HyPsd@RemoveBraces\expandafter
1237 {\Hy@temp@A#2}%
1238 }%
1239 \fi
1240 \fi

```

```

1241 \Hy@ReturnEnd
1242 }

```

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

```

1243 \def\HyPsd@AppendItalcorr#1{%
1244 \expandafter\HyPsd@@AppendItalcorr\expandafter{/}#1%
1245 }
1246 \def\HyPsd@@AppendItalcorr#1#2{%
1247 \expandafter\def\expandafter#2\expandafter{#2#1}%
1248 }

```

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).

```

1249 \def\HyPsd@CheckCatcodes#1#2\HyPsd@End{%
1250 \global\let\HyPsd@Rest\relax
1251 \ifcat\relax\noexpand#1\relax
1252 \ifx#1\protect
1253 \else
1254 \ifx#1\penalty
1255 \setbox\z@=\hbox{%
1256 \afterassignment\HyPsd@AfterCountRemove
1257 \count@=#2\HyPsd@End
1258 }%
1259 \else
1260 \ifx#1\kern
1261 \setbox\z@=\hbox{%
1262 \afterassignment\HyPsd@AfterDimenRemove
1263 \dimen@=#2\HyPsd@End
1264 }%
1265 \else
1266 \ifx#1\hskip
1267 \setbox\z@=\hbox{%
1268 \afterassignment\HyPsd@AfterSkipRemove
1269 \skip@=#2\HyPsd@End
1270 }%
1271 \else
1272 \HyPsd@CatcodeWarning{#1}%
1273 \fi
1274 \fi
1275 \fi
1276 \fi
1277 \else
1278 \ifcat#1A% letter
1279 \expandafter\def\expandafter\HyPsd@String\expandafter{%

```

```

1280     \HyPsd@String#1%
1281   }%
1282 \else
1283   \ifcat#1 % SPACE
1284     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1285       \HyPsd@String\HyPsd@SPACEOPTI
1286     }%
1287 \else
1288   \ifcat$#1%
1289     \HyPsd@CatcodeWarning{math shift}%
1290 \else
1291   \ifcat&#1%
1292     \HyPsd@CatcodeWarning{alignment tab}%
1293 \else
1294   \ifcat^#1%
1295     \HyPsd@CatcodeWarning{superscript}%
1296 \else
1297   \ifcat_#1%
1298     \HyPsd@CatcodeWarning{subscript}%
1299 \else
1300     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1301       \HyPsd@String#1%
1302     }%
1303   \fi
1304 \fi
1305 \fi
1306 \fi
1307 \fi
1308 \fi
1309 \fi
1310 \ifx\HyPsd@Rest\relax
1311   \ifx\scrollmode#2\scrollmode
1312   \else
1313     \Hy@ReturnAfterFiFiEnd{%
1314       \HyPsd@CheckCatcodes#2\HyPsd@End
1315     }%
1316   \fi
1317 \else
1318   \ifx\HyPsd@Rest\@empty
1319   \else
1320     \Hy@ReturnAfterFiFiEnd{%
1321       \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
1322     }%
1323   \fi
1324 \fi
1325 \Hy@ReturnEnd
1326 }

```

Remove counts, dimens, skips.

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

```

1327 \def\HyPsd@AfterCountRemove#1\HyPsd@End{%
1328   \gdef\HyPsd@Rest{#1}%
1329 }

```

\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.

```

1330 \def\HyPsd@AfterDimenRemove#1\HyPsd@end{%
1331   \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@>1ex %
1332     \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
1333     \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1334   \else
1335     \ifdim\dimen@=\z@
1336     \else
1337       \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
1338     \fi
1339   \gdef\HyPsd@Rest{#1}%
1340 \fi
1341 }
```

`\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).

```

1342 \def\HyPsd@AfterSkipRemove#1\HyPsd@end{%
1343   \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@>1ex %
1344     \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
1345     \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1346   \else
1347     \ifdim\skip@=\z@
1348     \else
1349       \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
1350     \fi
1351   \gdef\HyPsd@Rest{#1}%
1352 \fi
1353 }
```

Catcode warnings.

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

```

1354 \def\HyPsd@CatcodeWarning#1{%
1355   \HyPsd@Warning{%
1356     Token not allowed in a PDF string (%
1357     \ifHy@unicode
1358       Unicode%
1359     \else
1360       PDFDocEncoding%
1361     \fi
1362   ),%
1363   \MessageBreak removing ‘\HyPsd@RemoveCmdPrefix#1’%
1364 }%
1365 }
1366 \begingroup
1367   \catcode‘\|=0 %
1368   \catcode‘\|=12 %
1369   \gdef\HyPsd@RemoveCmdPrefix#1{%
1370     \expandafter\HyPsd@RemoveCmdPrefix
1371     \string#1\@empty\<>-|@empty|@empty
1372   }%
1373   \gdef\HyPsd@RemoveCmdPrefix#1\<>-#2|@empty#3|@empty{#1#2}%
1374 \endgroup
```

`\HyPsd@RemoveSpaceWarning`

```

1375 \def\HyPsd@RemoveSpaceWarning#1{%
1376   \HyPsd@Warning{%
1377     Token not allowed in a PDFDocEncoded string:%
1378     \MessageBreak #1\MessageBreak
1379     removed%
1380   }%
1381 }

```

\HyPsd@ReplaceSpaceWarning

```

1382 \def\HyPsd@ReplaceSpaceWarning#1{%
1383   \HyPsd@Warning{%
1384     Token not allowed in a PDFDocEncoded string:%
1385     \MessageBreak #1\MessageBreak
1386     replaced by space%
1387   }%
1388 }

```

6.6.5 Check for wrong glyphs

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

```

1389 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
1390   \expandafter\def\expandafter\HyPsd@String\expandafter{%
1391     \HyPsd@String#1%
1392   }%
1393   \ifx\#2\%
1394   \else
1395     \Hy@ReturnAfterFi{%
1396       \HyPsd@GlyphProcessWarning#2\@empty
1397     }%
1398   \fi
1399 }
1400 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
1401   \HyPsd@Warning{%
1402     Glyph not defined in %
1403     P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
1404     removing ‘\@backslashchar#1’%
1405   }%
1406   \HyPsd@GlyphProcess#2\@empty
1407 }

```

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 a protected space \040.

```

1408 \def\HyPsd@spaceopti#1{ % first space
1409   \ifx\HyPsd@spaceopti#1%
1410     \040%
1411   \else
1412     #1%
1413   \fi
1414 }%

```

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.

```

1415 \def\HyPsd@Subst#1#2#3{%
1416   \def\HyPsd@@ReplaceFi##1#1##2\END\fi{%
1417     \fi
1418     ##1%
1419     \ifx\scrollmode##2\scrollmode
1420     \else
1421       #2%
1422     \HyPsd@@ReplaceFi##2\END
1423     \fi
1424   }%
1425   \xdef#3{%
1426     \iftrue
1427       \expandafter\HyPsd@@ReplaceFi#3#1\END
1428     \fi
1429   }%
1430 }
```

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

```

1431 \def\HyPsd@StringSubst#1{%
1432   \expandafter\HyPsd@Subst\expandafter{\string#1}%
1433 }
```

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.

```

1434 \def\HyPsd@doxspace#1{%
1435   \ifx#1\relax\else
1436     \ifx#1.\else
1437       \ifx#1:\else
1438         \ifx#1,\else
1439         \ifx#1;\else
1440         \ifx#1!\else
1441         \ifx#1?\else
1442         \ifx#1/\else
1443         \ifx#1-\else
1444         \ifx#1'\else
1445           \HyPsd@SPACEOPTI
1446         \fi
1447       \fi
1448     \fi
1449   \fi
1450   \fi
1451   \fi
1452   \fi
1453   \fi
1454   \fi
```

```

1455  \fi
1456  #1%
1457 }%

```

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.

```

1458 \beginngroup
1459  \catcode'\|=0 %
1460  \catcode'\|=12 %

```

\HyPsd@ConvertToUnicode

```

1461 |gdef|HyPsd@ConvertToUnicode#1{%
1462   |xdef#1{%
1463     |expandafter|HyPsd@DoConvert#1|@empty|@empty|@empty
1464   }%
1465   |ifx#1|@empty
1466   |else
1467     |xdef#1{%
1468       \376\377%
1469       #1%
1470     }%
1471   |fi
1472 }%

```

\HyPsd@DoConvert

```

1473 |gdef|HyPsd@DoConvert#1{%
1474   |ifx#1|@empty
1475   |else
1476     |Hy@ReturnAfterFi{%
1477       |ifx#1\%%
1478       \%%
1479       |expandafter|HyPsd@DoEscape
1480     |else
1481       \000#1%
1482       |expandafter|HyPsd@DoConvert
1483     |fi
1484   }%
1485   |fi
1486 }%

```

\HyPsd@DoEscape

```

1487 |gdef|HyPsd@DoEscape#1{%
1488   |ifx#19%
1489   |expandafter|HyPsd@GetTwoBytes
1490   |else
1491     |Hy@ReturnAfterFi{%
1492       |ifx#18%
1493       00%
1494       |expandafter|HyPsd@GetTwoBytes
1495     |else
1496       #1%
1497       |expandafter|HyPsd@GetOneByte
1498     |fi

```

```

1499     }%
1500     |fi
1501 }%

```

`\HyPsd@GetTwoBytes`

```

1502 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
1503     #1\#2#3#4%
1504     |HyPsd@DoConvert
1505 }%

```

`\HyPsd@GetOneByte`

```

1506 |gdef|HyPsd@GetOneByte#1#2{%
1507     #1#2%
1508     |HyPsd@DoConvert
1509 }%
1510 |endgroup

```

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

```

1511 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%
1512     \xdef#4{#4#1#2}%
1513     \HyPsd@@ConvertToUnicode#3\END#4%
1514 }

```

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 `e \TeX 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

```

```

1515 \begingroup\expandafter\expandafter\expandafter\endgroup
1516 \expandafter\ifx\csname numexpr\endcsname\relax
1517     \let\HyPsd@UTFviii\relax
1518 \else
1519     \begingroup
1520         \lccode'\~='^f4\relax
1521     \lowercase{\endgroup
1522         \def\HyPsd@UTFviii{%
1523             \let\UTFviii@two@octets\HyPsd@UTFviii@two
1524             \let\UTFviii@three@octets\HyPsd@UTFviii@three
1525             \let\UTFviii@four@octets\HyPsd@UTFviii@four
1526             \ifx~\HyPsd@UTFviii@ccxliv@undef
1527                 \let~\HyPsd@UTFviii@ccxliv@def
1528             \fi
1529             \let\unichar\HyPsd@unichar
1530         }%
1531     }%
1532     \def\HyPsd@UTFviii@ccxliv@undef{\@inpenc@undefined@{utf8}}%
1533     \edef\HyPsd@UTFviii@ccxliv@def{%
1534         \noexpand\UTFviii@four@octets\string ~^f4%
1535     }%

```


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.

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

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

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

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

$$(5)$$

```

1536 \def\HyPsd@UTFviii@two#1#2{%
1537   \expandafter\HyPsd@UTFviii@@two
1538   \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter|
1539   \number'#1\expandafter|
1540   \number\dimexpr.125\dimexpr'#2sp\expandafter\relax\expandafter|
1541   \number'#2 \@nil
1542 }%
1543 \def\HyPsd@UTFviii@@two#1|#2|#3|#4\@nil{%
1544   \expandafter\8%
1545   \number\numexpr #1-48\expandafter\relax
1546   \csname\number\numexpr #2-4*#1\relax\expandafter\endcsname
1547   \number\numexpr #3-8*%
1548   \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
1549   \number\numexpr #4-8*#3\relax
1550 }%
```

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

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

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

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

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

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

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

$$(12)$$

```

1551 \def\HyPsd@UTFviii@three#1#2#3{%
1552   \expandafter\HyPsd@UTFviii@@three
1553   \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter|
1554   \number'#1\expandafter|
1555   \number\ifnum\numexpr'#2-128\relax <32 0\else 1\fi\expandafter|
1556   \number\dimexpr.25\dimexpr'#2sp\expandafter\relax\expandafter|
1557   \number'#2\expandafter|
1558   \number\dimexpr.125\dimexpr'#3sp\expandafter\relax\expandafter|
1559   \number'#3 \@nil
1560 }%
1561 \def\HyPsd@UTFviii@@three#1|#2|#3|#4|#5|#6|#7\@nil{%
1562   \expandafter\9%
1563   \number\numexpr #1-56\expandafter\relax
1564   \number\numexpr 2*(#2-4*#1)+#3\expandafter\relax
1565   \number\numexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax
1566   \csname\number\numexpr #5-4*#4\relax\expandafter\endcsname
1567   \number\numexpr #6-16\expandafter\relax
1568   \number\numexpr #7-8*#6\relax
1569 }%
```

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
```

```
1570 \def\HyPsd@UTFviii@four#1#2{%
1571   \expandafter\HyPsd@UTFviii@four\number
1572   \numexpr-1+('#1-240)*4+\dimexpr.0625\dimexpr'#2sp-128sp%
1573   \expandafter|\number
1574   \numexpr'#2-16*\dimexpr.0625\dimexpr'#2sp|%
1575 }%
1576 \def\HyPsd@UTFviii@four#1|#2|#3{%
1577   \933\number\dimexpr.25\dimexpr#1sp\relax\relax
1578   \csname\number\dimexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
1579   \ifodd#2 %
1580     \number\dimexpr(#2-1)/2\relax
1581   \else
1582     \number\dimexpr#2/2\relax
1583   \fi
1584   \number\dimexpr\ifodd#2 4+\fi
1585   \dimexpr.0625\dimexpr'#3sp-128sp\relax\relax\relax
1586   \933%
1587   \expandafter\HyPsd@UTFviii@four\number
1588   \numexpr'#3-16*\dimexpr.0625\dimexpr'#3sp|%
1589 }%
1590 \def\HyPsd@UTFviii@four#1|#2{%
1591   \number\dimexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
1592   \csname\number\dimexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
1593   \number\dimexpr.125\dimexpr'#2sp-128sp\relax\relax
1594   \number\dimexpr'#2-8*\dimexpr.125\dimexpr'#2sp\relax\relax\relax
1595 }%
```

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

```
1596 \def\HyPsd@unichar#1{%
1597   \ifHy@unicode
1598     \ifnum#1>"10FFFF %
1599       \HyPsd@UnicodeReplacementCharacter % illegal
1600     \else
1601       \ifnum#1>"FFFF %
```

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

```
1602   \expandafter\HyPsd@unichar\expandafter{%
1603     \number\dimexpr 55296+%
1604     \dimexpr.0009765625\dimexpr\number#1sp-\p@
1605     \relax\relax\relax
1606   }%
```

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

```
1607   \expandafter\HyPsd@unichar\expandafter{%
1608     \number\dimexpr#1-9216%
1609     -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
1610     \relax\relax\relax
1611   }%
1612   \else
1613     \ifnum#1>"7FF %
```

```

1614         \9%
1615         \expandafter\HyPsd@unichar@first@byte\expandafter{%
1616         \number
1617         \dimexpr.00390625\dimexpr\number#1sp\relax\relax
1618     }%
1619     \else
1620         \8%
1621         \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
1622     \fi
1623     \expandafter\HyPsd@unichar@second@byte\expandafter{%
1624     \number
1625     \numexpr#1-256*\number
1626     \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
1627 }%
1628 \fi
1629 \fi
1630 \else
1631     .% unsupported (Unicode -> PDF Doc Encoding)
1632 \fi
1633 }%
1634 \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%
1635 \def\HyPsd@unichar@first@byte#1{%
1636     \number\dimexpr.015625\dimexpr#1sp\relax\relax
1637     \expandafter\HyPsd@unichar@octtwo\expandafter{%
1638     \number
1639     \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
1640     \relax\relax\relax
1641 }%
1642 }%
1643 \def\HyPsd@unichar@second@byte#1{%
1644     \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
1645     \expandafter\HyPsd@unichar@octtwo\expandafter{%
1646     \number
1647     \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
1648     \relax\relax\relax
1649 }%
1650 }%
1651 \def\HyPsd@unichar@octtwo#1{%
1652     \number\dimexpr.125\dimexpr#1sp\relax\relax
1653     \number\numexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
1654     \relax\relax\relax
1655 }%
1656 \fi

```

7 Support of other packages

7.1 Class memoir

```

1657 \@ifclassloaded{memoir}{%
1658     \AtEndOfPackage{\RequirePackage{memhfixc}}}%
1659 }{}

```

7.2 Package subfigure

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

```

1660 \@ifpackageloaded{subfigure}{%
1661     \@ifundefined{sub@label}{%

```



```

1709 \def\Acrobatmenu#1#2{\leavevmode#2}
1710 \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

```

1711 \let\HyperRaiseLinkHook\@empty
1712 \def\HyperRaiseLinkDefault{\baselineskip}

```

`\HyperRaiseLinkHook` allows the user to reassign `\HyperRaiseLinkLength`.

```

1713 \def\Hy@raisedlink#1{%
1714   \ifvmode
1715     #1%
1716   \else
1717     \penalty\@M
1718     \smash{%
1719       \begingroup
1720         \let\HyperRaiseLinkLength\@tempdima
1721         \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
1722         \HyperRaiseLinkHook
1723       \expandafter\endgroup
1724       \expandafter\raise\the\HyperRaiseLinkLength\hbox{#1}%
1725     }%
1726   \fi
1727 }

```

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

```

\Hy@RestoreLastskip
1728 \def\Hy@SaveLastskip{%
1729   \let\Hy@RestoreLastskip\relax
1730   \ifvmode
1731     \ifdim\lastskip=\z@
1732       \let\Hy@RestoreLastskip\nobreak
1733     \else
1734       \begingroup
1735         \skip@=-\lastskip
1736         \edef\x{%
1737           \endgroup
1738           \def\noexpand\Hy@RestoreLastskip{%
1739             \noexpand\ifvmode
1740               \noexpand\nobreak
1741               \vskip\the\skip@
1742               \vskip\the\lastskip\relax
1743             \noexpand\fi
1744           }%
1745         }%

```

```

1746     \x
1747     \fi
1748   \else
1749     \ifhmode
1750       \ifdim\lastskip=\z@
1751         \let\Hy@RestoreLastskip\nobreak
1752       \else
1753         \begingroup
1754           \skip@=-\lastskip
1755           \edef\x{%
1756             \endgroup
1757             \def\noexpand\Hy@RestoreLastskip{%
1758               \noexpand\ifhmode
1759                 \noexpand\nobreak
1760                 \hskip\the\skip@
1761                 \hskip\the\lastskip\relax
1762             \noexpand\fi
1763           }%
1764         }%
1765       \x
1766     \fi
1767   \fi
1768 \fi
1769 }%

```

9 Options

9.1 Help macros

\Hy@boolkey

```

1770 \def\Hy@boolkey{\@dblarg\Hy@boolkey}
1771 \def\Hy@boolkey[#1]#2#3{%
1772   \lowercase{\def\Hy@tempa{#3}}%
1773   \ifx\Hy@tempa\@empty
1774     \let\Hy@tempa\Hy@true
1775   \fi
1776   \ifx\Hy@tempa\Hy@true
1777   \else
1778     \ifx\Hy@tempa\Hy@false
1779     \else
1780       \let\Hy@tempa\relax
1781     \fi
1782   \fi
1783   \ifx\Hy@tempa\relax
1784     \Hy@WarnOptionValue{#3}{#1}{‘true’ or ‘false’}%
1785   \else
1786     \Hy@Info{Option ‘#1’ set ‘\Hy@tempa’}%
1787     \csname Hy@#2\Hy@tempa\endcsname
1788   \fi
1789 }

```

\Hy@WarnOptionValue

```

1790 \def\Hy@WarnOptionValue#1#2#3{%
1791   \Hy@Warning{%
1792     Unexpected value ‘#1’\MessageBreak
1793     of option ‘#2’ instead of\MessageBreak

```

```

1794     #3%
1795 }%
1796 }

```

\Hy@DisableOption

```

1797 \def\Hy@DisableOption#1{%
1798   \@ifundefined{KV@Hyp@#1@default}{%
1799     \define@key{Hyp}{#1}%
1800   }{%
1801     \define@key{Hyp}{#1}[]%
1802   }%
1803   {\Hy@WarnOptionDisabled{#1}}%
1804 }

```

\Hy@WarnOptionDisabled

```

1805 \def\Hy@WarnOptionDisabled#1{%
1806   \Hy@Warning{%
1807     Option ‘#1’ has already been used,\MessageBreak
1808     setting the option has no effect%
1809   }%
1810 }

```

\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.

```

1811 \def\Hy@CheckOptionValue#1#2#3{%
1812   \begingroup
1813     \edef\x{#1}%
1814     \@onelevel@sanitize\x
1815     \let\y=y%
1816     \def\do##1##2{%
1817       \def\z{##1}%
1818       \@onelevel@sanitize\z
1819       \ifx\x\z
1820         \let\y=n%
1821         \let\do\@gobbletwo
1822       \fi
1823     }%
1824     #3%
1825     \ifx\y y%
1826       \def\do##1##2{%
1827         * ‘##1’%
1828         \ifx\\##2\\else\space(##2)\fi
1829         \MessageBreak
1830       }%
1831       \Hy@Warning{%
1832         Values of option ‘#2’:\MessageBreak
1833         #3%
1834         * An empty value disables the option.\MessageBreak
1835         Unknown value ‘\x’%
1836       }%
1837     \fi
1838   \endgroup
1839 }

```

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

```

1840 \def\Hy@DefNameKey#1{%
1841   \expandafter\Hy@@DefNameKey\csname @#1\endcsname{#1}%
1842 }

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

1843 \def\Hy@@DefNameKey#1#2#3{%
1844   \define@key{Hyp}{#2}{%
1845     \edef#1{##1}%
1846     \ifx#1\@empty
1847     \else
1848       \Hy@CheckOptionValue{##1}{#2}{#3}%
1849     \fi
1850   }%
1851   \let#1\@empty
1852 }

\Hy@UseNameKey

1853 \def\Hy@UseNameKey#1#2{%
1854   \ifx#2\@empty
1855   \else
1856     /#1/#2%
1857   \fi
1858 }

```

9.2 Defining the options

```

1859 \define@key{Hyp}{implicit}[true]{%
1860   \Hy@boolkey{implicit}{#1}%
1861 }
1862 \define@key{Hyp}{draft}[true]{%
1863   \Hy@boolkey{draft}{#1}%
1864 }
1865 \define@key{Hyp}{final}[true]{%
1866   \Hy@boolkey{final}{#1}%
1867 }
1868 \let\KV@Hyp@nolinks\KV@Hyp@draft
1869 \define@key{Hyp}{a4paper}[true]{%
1870   \def\special@paper{210mm,297mm}%
1871   \def\Hy@pageheight{842}%
1872 }
1873 \define@key{Hyp}{a5paper}[true]{%
1874   \def\special@paper{148mm,210mm}%
1875   \def\Hy@pageheight{595}%
1876 }
1877 \define@key{Hyp}{b5paper}[true]{%
1878   \def\special@paper{176mm,250mm}%
1879   \def\Hy@pageheight{709}%
1880 }
1881 \define@key{Hyp}{letterpaper}[true]{%
1882   \def\special@paper{8.5in,11in}%
1883   \def\Hy@pageheight{792}%
1884 }
1885 \define@key{Hyp}{legalpaper}[true]{%
1886   \def\special@paper{8.5in,14in}%
1887   \def\Hy@pageheight{1008}%

```



```

1888 }
1889 \define@key{Hyp}{executivepaper}[true]{%
1890   \def\special@paper{7.25in,10.5in}%
1891   \def\Hy@pageheight{720}%
1892 }
1893 \define@key{Hyp}{setpagesize}[true]{%
1894   \Hy@boolkey{setpagesize}{#1}%
1895 }
1896 \define@key{Hyp}{debug}[true]{%
1897   \Hy@boolkey[debug]{verbose}{#1}%
1898 }
1899 \define@key{Hyp}{linktocpage}[true]{%
1900   \Hy@boolkey{linktocpage}{#1}%
1901   \ifHy@linktocpage
1902     \let\Hy@linktoc\Hy@linktoc@page
1903   \else
1904     \let\Hy@linktoc\Hy@linktoc@section
1905   \fi
1906 }
1907 \chardef\Hy@linktoc@none=0 %
1908 \chardef\Hy@linktoc@section=1 %
1909 \chardef\Hy@linktoc@page=2 %
1910 \chardef\Hy@linktoc@all=3 %
1911 \ifHy@linktocpage
1912   \let\Hy@linktoc\Hy@linktoc@page
1913 \else
1914   \let\Hy@linktoc\Hy@linktoc@section
1915 \fi
1916 \define@key{Hyp}{linktoc}{%
1917   \@ifundefined{Hy@linktoc@#1}{%
1918     \Hy@Warning{%
1919       Unexpected value ‘#1’ of\MessageBreak
1920       option ‘linktoc’ instead of ‘none’,\MessageBreak
1921       ‘section’, ‘page’ or ‘all’%
1922     }%
1923   }{%
1924     \expandafter\let\expandafter\Hy@linktoc
1925       \csname Hy@linktoc@#1\endcsname
1926   }%
1927 }
1928 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
1929 \let\XR@ext\relax
1930 \define@key{Hyp}{verbose}[true]{%
1931   \Hy@boolkey{verbose}{#1}%
1932 }
1933 \define@key{Hyp}{typexml}[true]{%
1934   \Hy@boolkey{typexml}{#1}%
1935 }

```

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.

```

1936 \define@key{Hyp}{raiselinks}[true]{%
1937   \Hy@boolkey{raiselinks}{#1}%
1938 }

```

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

```

1939 \def\Hy@setbreaklinks#1{%
1940   \csname breaklinks#1\endcsname
1941 }

1942 \def\Hy@breaklinks@unsupported{%
1943   \ifx\Hy@setbreaklinks\@gobble
1944     \ifHy@breaklinks
1945       \Hy@WarningNoLine{%
1946         You have enabled option 'breaklinks'.\MessageBreak
1947         But driver '\Hy@driver.def' does not support this.\MessageBreak
1948         Expect trouble with the link areas of broken links%
1949       }%
1950     \fi
1951   \fi
1952 }

1953 \define@key{Hyp}{breaklinks}[true]{%
1954   \Hy@boolkey{breaklinks}{#1}%
1955   \let\Hy@setbreaklinks\@gobble
1956 }

```

Determines whether an automatic anchor is put on each page

```

1957 \define@key{Hyp}{pageanchor}[true]{%
1958   \Hy@boolkey{pageanchor}{#1}%
1959 }

```

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.

```

1960 \define@key{Hyp}{plainpages}[true]{%
1961   \Hy@boolkey{plainpages}{#1}%
1962 }

```

Are the names for anchors made as per the HyperTeX system, or do they simply use what \LaTeX provides?

```

1963 \define@key{Hyp}{naturalnames}[true]{%
1964   \Hy@boolkey{naturalnames}{#1}%
1965 }

```

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

```

1966 \define@key{Hyp}{hypertexnames}[true]{%
1967   \Hy@boolkey{hypertexnames}{#1}%
1968 }

```

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

```

1969 \define@key{Hyp}{nesting}[true]{%
1970   \Hy@boolkey{nesting}{#1}%
1971 }

```

```

1972 \define@key{Hyp}{unicode}[true]{%
1973   \Hy@boolkey{unicode}{#1}%
1974   \ifHy@unicode
1975     \def\HyPsd@pdfencoding{unicode}%
1976   \else
1977     \def\HyPsd@pdfencoding{pdfdoc}%
1978   \fi
1979   \HyPsd@LoadUnicode
1980 }

1981 \def\HyPsd@LoadUnicode{%
1982   \@ifundefined{T@PU}{\input{puenc.def}}{}%
1983   \DeclareFontFamily{PU}{pdf}{}%
1984   \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%

```

```

1985 \DeclareFontSubstitution{PU}{pdf}{m}{n}%
1986 \global\let\HyPsd@LoadUnicode\relax
1987 }
1988 \AtBeginDocument{%
1989 \ifx\HyPsd@LoadUnicode\relax
1990 \else
1991 \def\HyPsd@LoadUnicode{%
1992 \PackageError{hyperref}{%
1993 Unicode support for bookmarks is not available.\MessageBreak
1994 Activate unicode support by using one of the options\MessageBreak
1995 'unicode', 'pdfencoding=unicode', 'pdfencoding=auto'\MessageBreak
1996 in the preamble%
1997 } \@ehc
1998 \global\let\HyPsd@LoadUnicode\relax
1999 \global\Hy@unicodedefalse
2000 \global\let\Hy@unicodetrue\Hy@unicodedefalse
2001 }%
2002 \fi
2003 }

2004 \define@key{Hyp}{pdfencoding}{%
2005 \edef\HyPsd@temp{#1}%
2006 \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2007 \let\HyPsd@pdfencoding\HyPsd@temp
2008 \Hy@unicodedefalse
2009 \else
2010 \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2011 \z@
2012 \else
2013 \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2014 \z@
2015 \else
2016 \@ne
2017 \fi
2018 \fi
2019 \let\HyPsd@pdfencoding\HyPsd@temp
2020 \hypersetup{unicode}%
2021 \ifHy@unicode
2022 \def\HyPsd@pdfencoding{#1}%
2023 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
2024 \HyPsd@LoadStringEncoding
2025 \fi
2026 \else
2027 \Hy@Warning{Cannot switch to unicode bookmarks}%
2028 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2029 \fi
2030 \else
2031 \@onelevel@sanitize\HyPsd@temp
2032 \Hy@Warning{%
2033 Values of option 'pdfencoding':\MessageBreak
2034 'pdfdoc', 'unicode', 'auto'.\MessageBreak
2035 Ignoring unknown value '\HyPsd@temp'%
2036 }%
2037 \fi
2038 \fi
2039 }
2040 \def\HyPsd@pdfencoding@auto{auto}
2041 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}

```

```

2042 \def\HyPsd@pdfencoding@unicode{unicode}
2043 \let\HyPsd@pdfencoding\Hy@pdfencoding@pdfdoc
2044 \def\HyPsd@LoadStringEnc{%
2045   \RequirePackage{stringenc}[2007/06/14]%
2046   \let\HyPsd@LoadStringEnc\relax
2047 }
2048 \AtBeginDocument{%
2049   \ifpackageloaded{stringenc}{%
2050     \let\HyPsd@LoadStringEnc\relax
2051   }{%
2052     \def\HyPsd@LoadStringEnc{%
2053       \Hy@WarningNoLine{%
2054         Missing package ‘stringenc’. Use ‘pdfencoding=auto’\MessageBreak
2055         in the preamble or load the package there%
2056       }%
2057     }%
2058   }%
2059 }

2060 \newif\ifHy@setpdfversion
2061 \define@key{Hyp}{pdfversion}{%
2062   \ifundefined{Hy@pdfversion@#1}{%
2063     \PackageWarning{hyperref}{%
2064       Unsupported PDF version ‘#1’.\MessageBreak
2065       Valid values: 1.2 until 1.9%
2066     }%
2067   }{%
2068     \Hy@setpdfversiontrue
2069     \edef\Hy@pdfversion{\@nameuse{Hy@pdfversion@#1}}%
2070   }%
2071 }

2072 \@namedef{Hy@pdfversion@1.2}{2}%
2073 \@namedef{Hy@pdfversion@1.3}{3}%
2074 \@namedef{Hy@pdfversion@1.4}{4}%
2075 \@namedef{Hy@pdfversion@1.5}{5}%
2076 \@namedef{Hy@pdfversion@1.6}{6}%
2077 \@namedef{Hy@pdfversion@1.7}{7}%
2078 \@namedef{Hy@pdfversion@1.8}{8}%
2079 \@namedef{Hy@pdfversion@1.9}{9}%
2080 \def\Hy@pdfversion{2}

```

10 Options for different drivers

```

2081 \define@key{Hyp}{hyperref}[true]{}
2082 \define@key{Hyp}{tex4ht}[true]{}
2083 \Hy@texhttrue
2084 \setkeys{Hyp}{colorlinks=true}%
2085 \def\BeforeTeXIVht{\usepackage{color}}%
2086 \def\Hy@driver{htex4ht}%
2087 \def\MaybeStopEarly{%
2088   \typeout{Hyperref stopped early}%
2089   \AfterBeginDocument{%
2090     \PDF@FinishDoc
2091     \gdef\PDF@FinishDoc{}%
2092   }%
2093   \endinput
2094 }%
2095 }

```

```

2096 \define@key{Hyp}{pdftex}[true]{%
2097   \def\Hy@driver{hpdftex}%
2098 }
2099 \define@key{Hyp}{nativepdf}[true]{%
2100   \def\Hy@driver{hdvips}%
2101 }
2102 \define@key{Hyp}{dvipdfm}[true]{%
2103   \def\Hy@driver{hdvipdfm}%
2104 }
2105 \define@key{Hyp}{dvipdfmx}[true]{%
2106   \def\Hy@driver{hdvipdfm}%
2107 }
2108 \define@key{Hyp}{dvipdfmx-outline-open}[true]{%
2109   \expandafter\ifx\csname if#1\expandafter\endcsname
2110     \csname iftrue\endcsname
2111     \chardef\SpecialDvipdfmxOutlineOpen\@ne
2112   \else
2113     \chardef\SpecialDvipdfmxOutlineOpen\z@
2114   \fi
2115 }
2116 \define@key{Hyp}{xetex}[true]{%
2117   \def\Hy@driver{hdvipdfm}%
2118 }
2119 \define@key{Hyp}{pdfmark}[true]{%
2120   \def\Hy@driver{hdvips}%
2121 }
2122 \define@key{Hyp}{dvips}[true]{%
2123   \def\Hy@driver{hdvips}%
2124 }
2125 \define@key{Hyp}{hypertex}[true]{%
2126   \def\Hy@driver{hypertex}%
2127 }
2128 \let\Hy@MaybeStopNow\relax
2129 \define@key{Hyp}{vtex}[true]{%
2130   \begingroup\expandafter\expandafter\expandafter\endgroup
2131   \expandafter\ifx\csname OpMode\endcsname\relax
2132     \@latex@error{Non-VTeX processor}{}%
2133     \global\let\Hy@MaybeStopNow\endinput
2134     \endinput
2135   \else
2136     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2137     \def\Hy@driver{hvtex}%
2138   \else
2139     \ifnum\OpMode=10\relax
2140     \def\Hy@driver{hvtexhtm}%
2141     \def\MaybeStopEarly{%
2142       \typeout{Hyperref stopped early}%
2143       \AfterBeginDocument{%
2144         \PDF@FinishDoc
2145         \gdef\PDF@FinishDoc{}%
2146       }%
2147     \endinput
2148   }%
2149 \else
2150   \@latex@error{Mode (\the\OpMode) has no hyperref driver}{}%
2151   \global\let\Hy@MaybeStopNow\endinput
2152 \endinput

```

```

2153     \fi
2154     \fi
2155     \fi
2156 }
2157 \define@key{Hyp}{vtexpdfmark}[true]{%
2158   \begingroup\expandafter\expandafter\expandafter\endgroup
2159   \expandafter\ifx\csname OpMode\endcsname\relax
2160     \latex@error{Non-VTeX processor}{}%
2161     \let\Hy@MaybeStopNow\endinput
2162     \endinput
2163   \else
2164     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2165     \def\Hy@driver{hvtexmrk}%
2166     \else
2167       \latex@error{Mode (\the\OpMode) has no hyperref driver}{}%
2168       \let\Hy@MaybeStopNow\endinput
2169       \endinput
2170     \fi
2171     \fi
2172 }
2173 \define@key{Hyp}{dviwindo}[true]{%
2174   \def\Hy@driver{hdviwind}%
2175   \setkeys{Hyp}{colorlinks}%
2176   \PassOptionsToPackage{dviwindo}{color}%
2177 }
2178 \define@key{Hyp}{dvipsone}[true]{%
2179   \def\Hy@driver{hdvipson}%
2180 }
2181 \define@key{Hyp}{textures}[true]{%
2182   \def\Hy@driver{htexture}%
2183 }
2184 \define@key{Hyp}{latex2html}[true]{%
2185   \AtBeginDocument{\@latextohtmlX}%
2186 }

```

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

```

2187 \define@key{Hyp}{ps2pdf}[true]{%
2188   \def\Hy@driver{hdvips}%
2189   \providecommand*\@pdfborder{0 0 1}%
2190 }

```

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.

```

2191 \define@key{Hyp}{hyperfigures}[true]{%
2192   \Hy@boolkey[hyperfigures]{figures}{#1}%
2193 }

```

The automatic footnote linking can be disabled by option hyperfootnotes.

```

2194 \define@key{Hyp}{hyperfootnotes}[true]{%
2195   \Hy@boolkey[hyperfootnotes]{#1}%
2196 }

```

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

```

2197 \def\back@none{none}
2198 \def\back@section{section}
2199 \def\back@page{page}

```

```

2200 \def\back@slide{slide}
2201 \define@key{Hyp}{backref}[section]{%
2202   \lowercase{\def\Hy@tempa{#1}}%
2203   \ifx\Hy@tempa\@empty
2204     \let\Hy@tempa\back@section
2205   \fi
2206   \ifx\Hy@tempa\Hy@false
2207     \let\Hy@tempa\back@none
2208   \fi
2209   \ifx\Hy@tempa\back@slide
2210     \let\Hy@tempa\back@section
2211   \fi
2212   \ifx\Hy@tempa\back@page
2213     \PassOptionsToPackage{hyperpageref}{backref}%
2214     \Hy@backreftrue
2215   \else
2216     \ifx\Hy@tempa\back@section
2217       \PassOptionsToPackage{hyperref}{backref}%
2218       \Hy@backreftrue
2219     \else
2220       \ifx\Hy@tempa\back@none
2221         \Hy@backreffalse
2222       \else
2223         \Hy@WarnOptionValue{#1}{backref}{%
2224           'section', 'slide', 'page', 'none', \MessageBreak
2225           or 'false'}%
2226       \fi
2227     \fi
2228   \fi
2229 }
2230 \define@key{Hyp}{pagebackref}[true]{%
2231   \lowercase{\def\Hy@tempa{#1}}%
2232   \ifx\Hy@tempa\@empty
2233     \let\Hy@tempa\Hy@true
2234   \fi
2235   \ifx\Hy@tempa\Hy@true
2236     \PassOptionsToPackage{hyperpageref}{backref}%
2237     \Hy@backreftrue
2238   \else
2239     \ifx\Hy@tempa\Hy@false
2240       \Hy@backreffalse
2241     \else
2242       \Hy@WarnOptionValue{#1}{pagebackref}{'true' or 'false'}%
2243     \fi
2244   \fi
2245 }

```

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

```

2246 \define@key{Hyp}{hyperindex}[true]{%
2247   \Hy@boolkey{hyperindex}{#1}%
2248 }

```

Configuration of encap char.

```

2249 \define@key{Hyp}{encap}[\l]{%
2250   \def\HyInd@EncapChar{#1}%
2251 }

```

12 Language options

The `\autoref` feature depends on the language.

```
2252 \def\HyLang@afrikaans{%
2253   \def\equationautorefname{Vergelyking}%
2254   \def\footnoteautorefname{Voetnota}%
2255   \def\itemautorefname{Item}%
2256   \def\figureautorefname{Figuur}%
2257   \def\tableautorefname{Tabel}%
2258   \def\partautorefname{Deel}%
2259   \def\appendixautorefname{Bylae}%
2260   \def\chapterautorefname{Hoofstuk}%
2261   \def\sectionautorefname{Afdeling}%
2262   \def\subsectionautorefname{Subafdeling}%
2263   \def\subsubsectionautorefname{Subsubafdeling}%
2264   \def\paragraphautorefname{Paragraaf}%
2265   \def\subparagraphautorefname{Subparagraaf}%
2266   \def\FancyVerbLineautorefname{Lyn}%
2267   \def\theoremautorefname{Teorema}%
2268   \def\pageautorefname{Bladsy}%
2269 }
2270 \def\HyLang@english{%
2271   \def\equationautorefname{Equation}%
2272   \def\footnoteautorefname{footnote}%
2273   \def\itemautorefname{item}%
2274   \def\figureautorefname{Figure}%
2275   \def\tableautorefname{Table}%
2276   \def\partautorefname{Part}%
2277   \def\appendixautorefname{Appendix}%
2278   \def\chapterautorefname{chapter}%
2279   \def\sectionautorefname{section}%
2280   \def\subsectionautorefname{subsection}%
2281   \def\subsubsectionautorefname{subsubsection}%
2282   \def\paragraphautorefname{paragraph}%
2283   \def\subparagraphautorefname{subparagraph}%
2284   \def\FancyVerbLineautorefname{line}%
2285   \def\theoremautorefname{Theorem}%
2286   \def\pageautorefname{page}%
2287 }
2288 \def\HyLang@french{%
2289   \def\equationautorefname{'Equation}%
2290   \def\footnoteautorefname{note}%
2291   \def\itemautorefname{item}%
2292   \def\figureautorefname{Figure}%
2293   \def\tableautorefname{Tableau}%
2294   \def\partautorefname{Partie}%
2295   \def\appendixautorefname{Appendice}%
2296   \def\chapterautorefname{chapitre}%
2297   \def\sectionautorefname{section}%
2298   \def\subsectionautorefname{sous-section}%
2299   \def\subsubsectionautorefname{sous-sous-section}%
2300   \def\paragraphautorefname{paragraphe}%
2301   \def\subparagraphautorefname{sous-paragraphe}%
2302   \def\FancyVerbLineautorefname{ligne}%
2303   \def\theoremautorefname{Th\'eor\`eme}%
2304   \def\pageautorefname{page}%
2305 }
```



```

2306 \def\HyLang@german{%
2307   \def\equationautorefname{Gleichung}%
2308   \def\footnoteautorefname{Fu\ss note}%
2309   \def\itemautorefname{Punkt}%
2310   \def\figureautorefname{Abbildung}%
2311   \def\tableautorefname{Tabelle}%
2312   \def\partautorefname{Teil}%
2313   \def\appendixautorefname{Anhang}%
2314   \def\chapterautorefname{Kapitel}%
2315   \def\sectionautorefname{Abschnitt}%
2316   \def\subsectionautorefname{Unterabschnitt}%
2317   \def\subsubsectionautorefname{Unterunterabschnitt}%
2318   \def\paragraphautorefname{Absatz}%
2319   \def\subparagraphautorefname{Unterabsatz}%
2320   \def\FancyVerbLineautorefname{Zeile}%
2321   \def\theoremautorefname{Theorem}%
2322   \def\pageautorefname{Seite}%
2323 }
2324 \def\HyLang@italian{%
2325   \def\equationautorefname{Equazione}%
2326   \def\footnoteautorefname{nota}%
2327   \def\itemautorefname{punto}%
2328   \def\figureautorefname{Figura}%
2329   \def\tableautorefname{Tabella}%
2330   \def\partautorefname{Parte}%
2331   \def\appendixautorefname{Appendice}%
2332   \def\chapterautorefname{Capitolo}%
2333   \def\sectionautorefname{sezione}%
2334   \def\subsectionautorefname{sottosezione}%
2335   \def\subsubsectionautorefname{sottosottosezione}%
2336   \def\paragraphautorefname{paragrafo}%
2337   \def\subparagraphautorefname{sottoparagrafo}%
2338   \def\FancyVerbLineautorefname{linea}%
2339   \def\theoremautorefname{Teorema}%
2340   \def\pageautorefname{Pag.\@}%
2341 }
2342 \def\HyLang@magyar{%
2343   \def\equationautorefname{Egyenlet}%
2344   \def\footnoteautorefname{l\'abjegyzet}%
2345   \def\itemautorefname{Elem}%
2346   \def\figureautorefname{\`Abra}%
2347   \def\tableautorefname{T\'abl\'azat}%
2348   \def\partautorefname{R\'esz}%
2349   \def\appendixautorefname{F\'uggel\'ek}%
2350   \def\chapterautorefname{fejezet}%
2351   \def\sectionautorefname{szakasz}%
2352   \def\subsectionautorefname{alszakasz}%
2353   \def\subsubsectionautorefname{alalszakasz}%
2354   \def\paragraphautorefname{bekezd\'es}%
2355   \def\subparagraphautorefname{albekezd\'es}%
2356   \def\FancyVerbLineautorefname{sor}%
2357   \def\theoremautorefname{T\'étel}%
2358   \def\pageautorefname{oldal}%
2359 }
2360 \def\HyLang@portuges{%
2361   \def\equationautorefname{Equa\c c\~ao}%
2362   \def\footnoteautorefname{Nota de rodap\'e}%

```



```

2392 \def\itemautorefname{\cyr\cyrp.}%
2393 % \def\itemautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%

```

Names of the figure and table have stable (standard) abbreviation forms. No problem in the middle of sentence.

```

2394 \def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%
2395 \def\tableautorefname{\cyr\cyrt\cyra\cyrb\cyr1.}%

```

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

```

2396 \def\partautorefname{\cyr\cyrch.}%
2397 \def\chapterautorefname{\cyr\cyrg\cyr1.}%
2398 \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.

```

2399 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyr1.}%
2400 % \def\appendixautorefname{%
2401 % \cyr\cyrp\cyrr\cyri\cyr1\cyro\cyrrh\cyre\cyrn\cyri\cyre
2402 % }%

```

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.

```

2403 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
2404 \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.

```

2405 \def\paragraphautorefname{\cyr\cyrp.}%
2406 \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.

```

2407 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
2408 % \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.

```

2409 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%

```

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

```

2410 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%
2411 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%

```

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

```

2412 % \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 ...

```

2413 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%

```

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

```
2414 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyra}%
2415 % \def\Acctheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyru}%
```

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

```
2416 \def\pageautorefname{\cyr\cyrs.}%
2417 }

2418 \def\HyLang@spanish{%
2419 \def\equationautorefname{Ecuaci\'on}%
2420 \def\footnoteautorefname{Nota a pie de p\'agina}%
2421 \def\itemautorefname{Elemento}%
2422 \def\figureautorefname{Figura}%
2423 \def\tableautorefname{Tabla}%
2424 \def\partautorefname{Parte}%
2425 \def\appendixautorefname{Ap\'endice}%
2426 \def\chapterautorefname{Cap\'itulo}%
2427 \def\sectionautorefname{Secci\'on}%
2428 \def\subsectionautorefname{Subsecci\'on}%
2429 \def\subsubsectionautorefname{Subsubsecci\'on}%
2430 \def\paragraphautorefname{P\'arrafo}%
2431 \def\subparagraphautorefname{Subp\'arrafo}%
2432 \def\FancyVerbLineautorefname{L\'inea}%
2433 \def\theoremautorefname{Teorema}%
2434 \def\pageautorefname{P\'agina}%
2435 }

2436 \def\HyLang@vietnamese{%
2437 \def\equationautorefname{Ph\uhorn{}\ohorn{}ng tr\'inh}%
2438 \def\footnoteautorefname{Ch\'u th\'ich}%
2439 \def\itemautorefname{m\du{c}}%
2440 \def\figureautorefname{H\'inh}%
2441 \def\tableautorefname{B\h{a}ng}%
2442 \def\partautorefname{Ph\'acircumflex{}n}%
2443 \def\appendixautorefname{Ph\du{ }l\du{c}}%
2444 \def\chapterautorefname{ch\uhorn{}\ohorn{}ng}%
2445 \def\sectionautorefname{m\du{c}}%
2446 \def\subsectionautorefname{m\du{c}}%
2447 \def\subsubsectionautorefname{m\du{c}}%
2448 \def\paragraphautorefname{\dj{}o\da{n}}%
2449 \def\subparagraphautorefname{\dj{}o\da{n}}%
2450 \def\FancyVerbLineautorefname{d\'ong}%
2451 \def\theoremautorefname{DJ{}\di{ }nh l\'y}%
2452 \def\pageautorefname{Trang}%
2453 }
```

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

```
2454 \def\HyLang@addto#1#2{%
2455 #2%
2456 \@temptokena{#2}%
2457 \ifx#1\relax
2458 \let#1\@empty
2459 \fi
2460 \ifx#1\undefined
2461 \edef#1{\the\@temptokena}%
2462 \else
2463 \toks@\expandafter{#1}%
```

```

2464 \edef#1{\the\toks@\the\@temptokena}%
2465 \fi
2466 \@temptokena{\toks@\@temptokena
2467 }

2468 \def\HyLang@DeclareLang#1#2#3{%
2469 \begingroup
2470 \edef\x##1##2{%
2471 \noexpand\ifx##2\relax
2472 \errmessage{No definitions for language #2' found!}%
2473 \noexpand\fi
2474 \endgroup
2475 \noexpand\define@key{Hyp}{#1}[]{%
2476 \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
2477 #3%
2478 }%
2479 }%
2480 \expandafter\x\csname extras#1\expandafter\endcsname
2481 \csname HyLang@#2\endcsname
2482 }

2483 \HyLang@DeclareLang{english}{english}{}
2484 \HyLang@DeclareLang{UKenglish}{english}{}
2485 \HyLang@DeclareLang{british}{english}{}
2486 \HyLang@DeclareLang{USenglish}{english}{}
2487 \HyLang@DeclareLang{american}{english}{}
2488 \HyLang@DeclareLang{german}{german}{}
2489 \HyLang@DeclareLang{austrian}{german}{}
2490 \HyLang@DeclareLang{ngerman}{german}{}
2491 \HyLang@DeclareLang{naustrian}{german}{}
2492 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}
2493 \HyLang@DeclareLang{brazil}{portuges}{}
2494 \HyLang@DeclareLang{brazilian}{portuges}{}
2495 \HyLang@DeclareLang{portuguese}{portuges}{}
2496 \HyLang@DeclareLang{spanish}{spanish}{}
2497 \HyLang@DeclareLang{afrikaans}{afrikaans}{}
2498 \HyLang@DeclareLang{french}{french}{}
2499 \HyLang@DeclareLang{frenchb}{french}{}
2500 \HyLang@DeclareLang{francais}{french}{}
2501 \HyLang@DeclareLang{acadian}{french}{}
2502 \HyLang@DeclareLang{canadien}{french}{}
2503 \HyLang@DeclareLang{italian}{italian}{}
2504 \HyLang@DeclareLang{magyar}{magyar}{}
2505 \HyLang@DeclareLang{hungarian}{magyar}{}

```

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

```

2506 \define@key{Hyp}{vietnamese}[]{}%
2507 \HyLang@addto\extrasvietnamese\HyLang@vietnamese
2508 \AtEndOfPackage{%
2509 \ifundefined{T@PU}{}{}%
2510 \input{puvnenc.def}%
2511 }%
2512 }%
2513 }

2514 \define@key{Hyp}{vietnam}[]{}%
2515 \HyLang@addto\extravietnam\HyLang@vietnamese
2516 \AtEndOfPackage{%
2517 \ifundefined{T@PU}{}{}%
2518 \input{puvnenc.def}%

```

```

2519 }%
2520 }%
2521 }

```

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

```

2522 \define@key{Hyp}{arabic}[]{%
2523   \AtEndOfPackage{%
2524     \ifundefined{T@PU}{-}{%
2525       \input{puarenc.def}%
2526     }%
2527   }%
2528 }

```

13 Options to change appearance of links

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

```

2529 \define@key{Hyp}{colorlinks}[true]{%
2530   \Hy@boolkey{colorlinks}{#1}%
2531 }
2532 \define@key{Hyp}{ocgcolorlinks}[true]{%
2533   \Hy@boolkey{ocgcolorlinks}{#1}%
2534 }
2535 \AtBeginDocument{%
2536   \begingroup
2537     \ifundefined{OBJ@OCG@view}{%
2538       \ifHy@ocgcolorlinks
2539         \Hy@Warning{%
2540           Driver does not support ‘ocgcolorlinks’,\MessageBreak
2541           using ‘colorlinks’ instead%
2542         }%
2543       \fi
2544     }{}%
2545   \endgroup
2546 }
2547 \define@key{Hyp}{frenchlinks}[true]{%
2548   \Hy@boolkey{frenchlinks}{#1}%
2549 }

```

14 Bookmarking

```

2550 \define@key{Hyp}{bookmarks}[true]{%
2551   \Hy@boolkey{bookmarks}{#1}%
2552 }
2553 \define@key{Hyp}{bookmarksopen}[true]{%
2554   \Hy@boolkey{bookmarksopen}{#1}%
2555 }

```

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.

```

2556 \let\Hy@bookmarksdepth\c@tocdepth
2557 \define@key{Hyp}{bookmarksdepth}[]{%
2558   \begingroup
2559     \edef\x{#1}%
2560     \ifx\x\empty
2561       \global\let\Hy@bookmarksdepth\c@tocdepth
2562     \else
2563       \@ifundefined{toclevel@\x}{%
2564         \@onelevel@sanitize\x
2565         \edef\y{\expandafter\@car\x\@nil}%
2566         \ifcase 0\expandafter\ifx\y-1\fi
2567           \expandafter\ifnum\expandafter'\y>47 %
2568             \expandafter\ifnum\expandafter'\y<58 1\fi\fi\relax
2569           \Hy@Warning{Unknown document division name (\x)}%
2570         \else
2571           \setbox\z@=\hbox{%
2572             \count@=\x
2573             \xdef\Hy@bookmarksdepth{\the\count@}%
2574           }%
2575         \fi
2576       }{%
2577         \setbox\z@=\hbox{%
2578           \count@=\csname toclevel@\x\endcsname
2579           \xdef\Hy@bookmarksdepth{\the\count@}%
2580         }%
2581       }%
2582     \fi
2583   \endgroup
2584 }

```

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

```

2585 \define@key{Hyp}{bookmarksopenlevel}{%
2586   \def\@bookmarksopenlevel{#1}%
2587 }
2588 \def\@bookmarksopenlevel{\maxdimen}
2589 % ‘bookmarkstype’ to specify which ‘toc’ file to mimic
2590 \define@key{Hyp}{bookmarkstype}{%
2591   \def\Hy@bookmarkstype{#1}%
2592 }
2593 \def\Hy@bookmarkstype{toc}

```

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

```

2594 \define@key{Hyp}{bookmarksnumbered}[true]{%
2595   \Hy@boolkey{bookmarksnumbered}{#1}%
2596 }

```

Option `CJKbookmarks` enables the patch for CJK bookmarks.

```

2597 \define@key{Hyp}{CJKbookmarks}[true]{%
2598   \Hy@boolkey{CJKbookmarks}{#1}%
2599 }

2600 \def\Hy@temp#1{%
2601   \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
2602 }

```

```

2603 \def\Hy@temp#1#2#3{%
2604   \define@key{Hyp}{#2color}{%
2605     \HyColor@HyperrefColor{##1}#1%
2606   }%
2607   \def#1{#3}%
2608 }
2609 \Hy@temp{link}{red}
2610 \Hy@temp{anchor}{black}
2611 \Hy@temp{cite}{green}
2612 \Hy@temp{file}{cyan}
2613 \Hy@temp{url}{magenta}
2614 \Hy@temp{menu}{red}
2615 \Hy@temp{run}{\@filecolor}
2616 \define@key{Hyp}{pagecolor}{%
2617   \Hy@WarningPageColor
2618 }
2619 \def\Hy@WarningPageColor{%
2620   \Hy@WarningNoLine{Option 'pagecolor' is not available anymore}%
2621   \global\let\Hy@WarningPageColor\relax
2622 }

2623 \def\hyperbaseurl#1{\def\@baseurl{#1}}
2624 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
2625 \let\@baseurl\empty
2626 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
2627 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
2628 \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.

```

2629 \let\@pdfpagetransition\relax
2630 \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.

```

2631 \let\@pdfpageduration\relax
2632 \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.

```

2633 \newif\ifHy@useHidKey
2634 \Hy@useHidKeyfalse
2635 \define@key{Hyp}{pdfpagehidden}[true]{%
2636   \Hy@boolkey{pdfpagehidden}{#1}%
2637   \ifHy@pdfpagehidden
2638     \global\Hy@useHidKeytrue
2639   \fi
2640 }

```

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).

```

2641 \def\Hy@ColorList{cite,file,link,menu,run,url}
2642 \@for\Hy@temp:=\Hy@ColorList\do{%
2643   \edef\Hy@temp{%
2644     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
2645       \noexpand\HyColor@HyperrefBorderColor
2646         {##1}%
2647       \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
2648       {hyperref}%
2649       {\Hy@temp bordercolor}%
2650     }%
2651   }%
2652   \Hy@temp
2653 }
2654 \define@key{Hyp}{pagebordercolor}{%
2655   \Hy@WarningPageBorderColor
2656 }
2657 \def\Hy@WarningPageBorderColor{%
2658   \Hy@WarningNoLine{Option 'pagebordercolor' is not available anymore}%
2659   \global\let\Hy@WarningPageBorderColor\relax
2660 }
2661 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{#1}}
2662 \Hy@DefNameKey{pdfhighlight}{%
2663   \do{/I}{Invert}%
2664   \do{/N}{None}%
2665   \do{/O}{Outline}%
2666   \do{/P}{Push}%
2667 }
2668 \define@key{Hyp}{pdfborder}{\def\@pdfborder{#1}}
2669 \define@key{Hyp}{pdfborderstyle}{\def\@pdfborderstyle{#1}}
2670 \def\Hy@setpdfborder{%
2671   \ifx\@pdfborder\@empty
2672   \else
2673     /Border[\@pdfborder]%
2674   \fi
2675   \ifx\@pdfborderstyle\@empty
2676   \else
2677     /BS<<\@pdfborderstyle>>%
2678   \fi
2679 }
2680 \Hy@DefNameKey{pdfpagemode}{%
2681   \do{UseNone}{}%
2682   \do{UseOutlines}{}%
2683   \do{UseThumbs}{}%
2684   \do{FullScreen}{}%
2685   \do{UseOC}{PDF 1.5}%
2686   \do{UseAttachments}{PDF 1.6}%
2687 }
2688 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
2689   \do{UseNone}{}%
2690   \do{UseOutlines}{}%
2691   \do{UseThumbs}{}%
2692   \do{FullScreen}{}%

```

```

2693 \do{UseOC}{PDF 1.5}%
2694 \do{UseAttachments}{PDF 1.6}%
2695 }
2696 \Hy@DefNameKey{pdfdirection}{%
2697 \do{L2R}{Left to right}%
2698 \do{R2L}{Right to left}%
2699 }
2700 \Hy@DefNameKey{pdfviewarea}{%
2701 \do{MediaBox}{}%
2702 \do{CropBox}{}%
2703 \do{BleedBox}{}%
2704 \do{TrimBox}{}%
2705 \do{ArtBox}{}%
2706 }
2707 \Hy@DefNameKey{pdfviewclip}{%
2708 \do{MediaBox}{}%
2709 \do{CropBox}{}%
2710 \do{BleedBox}{}%
2711 \do{TrimBox}{}%
2712 \do{ArtBox}{}%
2713 }
2714 \Hy@DefNameKey{pdfprintarea}{%
2715 \do{MediaBox}{}%
2716 \do{CropBox}{}%
2717 \do{BleedBox}{}%
2718 \do{TrimBox}{}%
2719 \do{ArtBox}{}%
2720 }
2721 \Hy@DefNameKey{pdfprintclip}{%
2722 \do{MediaBox}{}%
2723 \do{CropBox}{}%
2724 \do{BleedBox}{}%
2725 \do{TrimBox}{}%
2726 \do{ArtBox}{}%
2727 }
2728 \Hy@DefNameKey{pdfprintscaling}{%
2729 \do{AppDefault}{}%
2730 \do{None}{}%
2731 }
2732 \Hy@DefNameKey{pdfduplex}{%
2733 \do{Simplex}{}%
2734 \do{DuplexFlipShortEdge}{}%
2735 \do{DuplexFlipLongEdge}{}%
2736 }
2737 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
2738 \do{true}{}%
2739 \do{false}{}%
2740 }
2741 \define@key{Hyp}{pdfprintpagerange}{%
2742 \def\@pdfprintpagerange{#1}%
2743 }
2744 \Hy@DefNameKey{pdfnumcopies}{%
2745 \do{2}{two copies}%
2746 \do{3}{three copies}%
2747 \do{4}{four copies}%
2748 \do{5}{five copies}%
2749 }

```

```

2750 \define@key{Hyp}{pdfusetitle}[true]{%
2751   \Hy@boolkey[pdfusetitle]{usetitle}{#1}%
2752 }
2753 \define@key{Hyp}{pdftitle}{\pdfstringdef\@pdftitle{#1}}
2754 \define@key{Hyp}{pdfauthor}{\pdfstringdef\@pdfauthor{#1}}
2755 \define@key{Hyp}{pdfproducer}{\pdfstringdef\@pdfproducer{#1}}
2756 \define@key{Hyp}{pdfcreator}{\pdfstringdef\@pdfcreator{#1}}
2757 \define@key{Hyp}{pdfcreationdate}{%
2758   \beginngroup
2759     \Hy@unicodedefalse
2760     \pdfstringdef\@pdfcreationdate{#1}%
2761   \endgroup
2762 }
2763 \define@key{Hyp}{pdfmoddate}{%
2764   \beginngroup
2765     \Hy@unicodedefalse
2766     \pdfstringdef\@pdfmoddate{#1}%
2767   \endgroup
2768 }
2769 \define@key{Hyp}{pdfsubject}{\pdfstringdef\@pdfsubject{#1}}
2770 \define@key{Hyp}{pdfkeywords}{\pdfstringdef\@pdfkeywords{#1}}
2771 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \\\}
2772 \define@key{Hyp}{pdflinkmargin}{\setpdflinkmargin{#1}}
2773 \let\setpdflinkmargin@gobble
2774 \def\calculate@pdfview#1 #2\{%
2775   \def\@pdfview{#1}%
2776   \ifx\#2\%
2777     \def\@pdfviewparams{ -32768}%
2778   \else
2779     \def\@pdfviewparams{ #2}%
2780   \fi
2781 }
2782 \beginngroup\expandafter\expandafter\expandafter\endgroup
2783 \expandafter\ifx\csname numexpr\endcsname\relax
2784   \def\Hy@number#1{%
2785     \expandafter\@firstofone\expandafter{\number#1}%
2786   }%
2787 \else
2788   \def\Hy@number#1{%
2789     \the\numexpr#1\relax
2790   }%
2791 \fi
2792 \define@key{Hyp}{pdfstartpage}{%
2793   \ifx\#1\%
2794     \def\@pdfstartpage{}%
2795   \else
2796     \edef\@pdfstartpage{\Hy@number{#1}}%
2797   \fi
2798 }%
2799 \define@key{Hyp}{pdfstartview}{%
2800   \ifx\#1\%
2801     \def\@pdfstartview{}%
2802   \else
2803     \hypercalcbpdef\@pdfstartview{ /#1 }%
2804   \fi
2805 }
2806 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}

```

```

2807 \define@key{Hyp}{pdftoolbar}[true]{%
2808   \Hy@boolkey[pdftoolbar]{toolbar}{#1}%
2809 }
2810 \define@key{Hyp}{pdfmenubar}[true]{%
2811   \Hy@boolkey[pdfmenubar]{menubar}{#1}%
2812 }
2813 \define@key{Hyp}{pdfwindowui}[true]{%
2814   \Hy@boolkey[pdfwindowui]{windowui}{#1}%
2815 }
2816 \define@key{Hyp}{pdffitwindow}[true]{%
2817   \Hy@boolkey[pdffitwindow]{fitwindow}{#1}%
2818 }
2819 \define@key{Hyp}{pdfcenterwindow}[true]{%
2820   \Hy@boolkey[pdfcenterwindow]{centerwindow}{#1}%
2821 }
2822 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
2823   \Hy@boolkey[pdfdisplaydoctitle]{displaydoctitle}{#1}%
2824 }
2825 \define@key{Hyp}{pdfa}[true]{%
2826   \Hy@boolkey[pdfa]{#1}%
2827 }
2828 \define@key{Hyp}{pdfnewwindow}[true]{%
2829   \def\Hy@temp{#1}%
2830   \ifx\Hy@temp\empty
2831     \Hy@newwindowsetfalse
2832   \else
2833     \Hy@newwindowsettrue
2834     \Hy@boolkey[pdfnewwindow]{newwindow}{#1}%
2835   \fi
2836 }
2837 \def\Hy@SetNewWindow{%
2838   \ifHy@newwindowset
2839     /NewWindow %
2840     \ifHy@newwindow true\else false\fi
2841   \fi
2842 }
2843 \Hy@DefNameKey{pdfpagelayout}{%
2844   \do{SinglePage}{}%
2845   \do{OneColumn}{}%
2846   \do{TwoColumnLeft}{}%
2847   \do{TwoColumnRight}{}%
2848   \do{TwoPageLeft}{PDF 1.5}%
2849   \do{TwoPageRight}{PDF 1.5}%
2850 }
2851 \define@key{Hyp}{pdflang}{%
2852   \def\@pdflang{#1}%
2853 }
2854 \define@key{Hyp}{pdfpagelabels}[true]{%
2855   \Hy@boolkey[pdfpagelabels]{pagelabels}{#1}%
2856 }
2857 \define@key{Hyp}{pdfescapeform}[true]{%
2858   \Hy@boolkey[pdfescapeform]{escapeform}{#1}%
2859 }

```

Default values:

```

2860 \def\@linkbordercolor{1 0 0}
2861 \def\@urlbordercolor{0 1 1}
2862 \def\@menubordercolor{1 0 0}

```

```

2863 \def\@filebordercolor{0 .5 .5}
2864 \def\@runbordercolor{0 .7 .7}
2865 \def\@citebordercolor{0 1 0}
2866 \def\@pdfhighlight{/I}
2867 \def\@pdftitle{}
2868 \def\@pdfauthor{}
2869 \let\@pdfproducer\relax
2870 \def\@pdfcreator{LaTeX with hyperref package}
2871 \def\@pdfcreationdate{}
2872 \def\@pdfmoddate{}
2873 \def\@pdfsubject{}
2874 \def\@pdfkeywords{}
2875 \def\@pdfpagescrop{}
2876 \def\@pdfstartview{ /Fit }
2877 \def\@pdfstartpage{1}
2878 \def\@pdfprintpagerange{}
2879 \def\@pdflang{}
2880 \let\PDF@SetupDoc\@empty
2881 \let\PDF@FinishDoc\@empty
2882 \let\phantomsection\@empty
2883 \let\special@paper\@empty
2884 \def\HyperDestNameFilter#1{#1}
2885 \ifundefined{stockwidth}{%
2886   \ifdim\paperwidth>\z@
2887     \ifdim\paperheight>\z@
2888       \edef\special@paper{\the\paperwidth,\the\paperheight}%
2889     \fi
2890   \fi
2891 }{%
2892   \ifdim\stockwidth>\z@
2893     \ifdim\stockheight>\z@
2894       \edef\special@paper{\the\stockwidth,\the\stockheight}%
2895     \fi
2896   \fi
2897 }
2898 \begingroup
2899   \edef\x{\@ifundefined{stockheight}\paperheight\stockheight}%
2900   \dimen@=\x\relax
2901   \ifdim\dimen@>\z@
2902   \else
2903     \dimen@=11in\relax
2904     \Hy@WarningNoLine{%
2905       Height of page (\expandafter\string\x) %
2906       is invalid (\the\x),\MessageBreak
2907       using 11in%
2908     }%
2909   \fi
2910   \dimen@=0.99626401\dimen@
2911   \xdef\Hy@pageheight{\strip@pt\dimen@}%
2912 \endgroup
2913 \def\HyInd@EncapChar{\|}
2914 \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.

```

2915 \let\hyper@normalise\ExecuteOptions

```

```

2916 \let\ExecuteOptions\hypersetup
2917 \Hy@RestoreCatcodes
2918 \InputIfFileExists{hyperref.cfg}{-}{-}
2919 \Hy@SetCatcodes
2920 \let\ExecuteOptions\hyper@normalise
2921 \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`.

```

2922 \RequirePackage{kvoptions}[2006/08/17]

```

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

```

2923 \@ifpackageloaded{tex4ht}{%
2924   \@ifpackagewith{hyperref}{tex4ht}{-}{-}%
2925   \PassOptionsToPackage{tex4ht}{hyperref}%
2926 }%
2927 }{-}

```

```

2928 \let\ReadBookmarks\relax
2929 \ProcessKeyvalOptions{Hyp}

```

After processing options.

```

2930 \AtBeginDocument{%
2931   \ifHy@draft
2932     \let\hyper@@anchor\@gobble
2933     \gdef\hyper@link#1#2#3{#3}%
2934     \let\hyper@anchorstart\@gobble
2935     \let\hyper@anchorend\@empty
2936     \let\hyper@linkstart\@gobbletwo
2937     \let\hyper@linkend\@empty
2938     \def\hyper@linkurl#1#2{#1}%
2939     \def\hyper@linkfile#1#2#3{#1}%
2940     \def\hyper@link@[#1]#2#3{#1}%
2941     \def\Acrobatmenu#1#2{\leavevmode#2}%
2942     \let\PDF@SetupDoc\@empty
2943     \let\PDF@FinishDoc\@empty
2944     \let\@fifthoffive\@secondoftwo
2945     \let\@secondoffive\@secondoftwo
2946     \let\ReadBookmarks\relax
2947     \let\WriteBookmarks\relax
2948     \Hy@WarningNoLine{ draft mode on}%
2949   \fi
2950   \Hy@DisableOption{draft}%
2951   \Hy@DisableOption{nolinks}%
2952   \Hy@DisableOption{final}%
2953 }

```

15.1 PDF/A

```

2954 \Hy@DisableOption{pdfa}

2955 \ifHy@pdfa
2956   \setkeys{Hyp}{pdfversion=1.4}%
2957   \def\Hy@Acrobatmenu#1#2{%
2958     \leavevmode
2959     \begingroup
2960     \edef\x{#1}%

```

```

2961 \@onelevel@sanitize\x
2962 \ifx\x\Hy@NextPage
2963 \let\y=Y%
2964 \else
2965 \ifx\x\Hy@PrevPage
2966 \let\y=Y%
2967 \else
2968 \ifx\x\Hy@FirstPage
2969 \let\y=Y%
2970 \else
2971 \ifx\x\Hy@LastPage
2972 \let\y=Y%
2973 \else
2974 \let\y=N%
2975 \fi
2976 \fi
2977 \fi
2978 \fi
2979 \expandafter\endgroup
2980 \ifx\y Y%
2981 \else
2982 \PackageError{hyperref}{%
2983 PDF/A: Named action ‘#1’ is not permitted%
2984 }\@ehc
2985 {#2}%
2986 \expandafter\@gobble
2987 \fi
2988 }%
2989 \def\Hy@temp#1{%
2990 \expandafter\def\csname Hy@#1\endcsname{#1}%
2991 \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
2992 }%
2993 \Hy@temp{NextPage}%
2994 \Hy@temp{PrevPage}%
2995 \Hy@temp{FirstPage}%
2996 \Hy@temp{LastPage}%
2997 \else
2998 \def\Hy@Acrobatmenu#1#2{\leavevmode}%
2999 \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.

```

3000 \Hy@nextfalse
3001 \@ifundefined{spanish@sh@"@sel}{\Hy@nexttrue}
3002 \@ifundefined{galician@sh@"@sel}{\Hy@nexttrue}
3003 \@ifundefined{estonian@sh@"@sel}{\Hy@nexttrue}
3004 \ifHy@next
3005 \let\texttilde\~%
3006 \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.

```

3007 \@ifpackageloaded{babel}{%

```

```

3008 \@ifpackagelater{babel}{2008/03/16}{%
3009   \def\Hy@PatchLanguageShorthands#1{%
3010     \begingroup
3011       \edef\x{#1}%
3012       \@onelevel@sanitize\x
3013       \def\y{system}%
3014       \@onelevel@sanitize\y
3015     \expandafter\endgroup
3016     \ifx\x\y
3017     \else
3018       \HyOrg@languageshorthands{#1}%
3019     \fi
3020   }%
3021   \AtBeginDocument{%
3022     \begingroup
3023       \toks0=\expandafter{\pdfstringdefPreHook}%
3024       \xdef\pdfstringdefPreHook{%
3025         \let\noexpand\HyOrg@languageshorthands
3026         \noexpand\languageshorthands
3027         \let\noexpand\languageshorthands
3028         \noexpand\Hy@PatchLanguageShorthands
3029         \the\toks0 %
3030         \let\noexpand\languageshorthands
3031         \noexpand\HyOrg@languageshorthands
3032       }%
3033     \endgroup
3034   }%
3035   }{}%
3036 }{}

3037 \ifHy@figures
3038   \Hy@Info{Hyper figures ON}%
3039 \else
3040   \Hy@Info{Hyper figures OFF}%
3041 \fi
3042 \ifHy@nesting
3043   \Hy@Info{Link nesting ON}%
3044 \else
3045   \Hy@Info{Link nesting OFF}%
3046 \fi
3047 \ifHy@hyperindex
3048   \Hy@Info{Hyper index ON}%
3049 \else
3050   \Hy@Info{Hyper index OFF}%
3051 \fi
3052 \ifHy@plainpages
3053   \Hy@Info{Plain pages ON}%
3054 \else
3055   \Hy@Info{Plain pages OFF}%
3056 \fi
3057 \ifHy@backref
3058   \Hy@Info{Backreferencing ON}%
3059 \else
3060   \Hy@Info{Backreferencing OFF}%
3061 \fi
3062 \ifHy@typexml
3063   \AtEndOfPackage{%
3064     \RequirePackage{color}%

```



```

3065 \RequirePackage{nameref}%
3066 }%
3067 \fi
3068 \Hy@DisableOption{typexml}
3069 \ifHy@implicit
3070 \typeout{Implicit mode ON; LaTeX internals redefined}%
3071 \else
3072 \typeout{Implicit mode OFF; no redefinition of LaTeX internals}%
3073 \def\MaybeStopEarly{%
3074 \typeout{Hyperref stopped early}%
3075 \AfterBeginDocument{%
3076 \PDF@FinishDoc
3077 \gdef\PDF@FinishDoc{}}%
3078 }%
3079 \endinput
3080 }%
3081 \AtBeginDocument{%
3082 \let\autoref\ref
3083 \let\autopageref\pageref
3084 \ifx\@pdfpagemode\@empty
3085 \gdef\@pdfpagemode{UseNone}%
3086 \fi
3087 \global\Hy@backreffalse
3088 }%
3089 \AtEndOfPackage{%
3090 \global\let\ReadBookmarks\relax
3091 \global\let\WriteBookmarks\relax
3092 }%
3093 \fi
3094 \Hy@DisableOption{implicit}

```

15.3.1 Driver loading

```

3095 \AtEndOfPackage{%
3096 \@ifpackageloaded{tex4ht}{%
3097 \def\Hy@driver{htex4ht}%
3098 \Hy@texhttrue
3099 }{}%

```

Some drivers can be detected. Check for these drivers, whether the given driver option is ok. Otherwise force the right driver or use the default driver.

```

3100 \ifx\Hy@driver\@empty
3101 \else
3102 \def\Hy@temp{hpdftex}%
3103 \ifpdf
3104 \ifx\Hy@driver\Hy@temp
3105 \else
3106 \Hy@WarningNoLine{%
3107 Wrong driver ‘\Hy@driver.def’;\MessageBreak
3108 pdfTeX is running in PDF mode.\MessageBreak
3109 Forcing driver ‘\Hy@temp.def’%
3110 }%
3111 \let\Hy@driver\Hy@temp
3112 \fi
3113 \else
3114 \ifx\Hy@driver\Hy@temp
3115 \Hy@WarningNoLine{%
3116 Wrong driver ‘\Hy@driver.def’;\MessageBreak

```

```

3117         pdfTeX is not running in PDF mode.\MessageBreak
3118         Using default driver%
3119     }%
3120     \let\Hy@driver\@empty
3121 \fi
3122 \fi
3123 \fi
3124 \ifx\Hy@driver\@empty
3125 \else
3126     \def\Hy@temp{hdvipdfm}%
3127     \ifxetex
3128         \ifx\Hy@driver\Hy@temp
3129         \else
3130             \Hy@WarningNoLine{%
3131                 Wrong driver '\Hy@driver.def';\MessageBreak
3132                 XeTeX is running.\MessageBreak
3133                 Forcing driver '\Hy@temp.def' for XeTeX%
3134             }%
3135             \let\Hy@driver\Hy@temp
3136         \fi
3137     \fi
3138 \fi
3139 \ifx\Hy@driver\@empty
3140 \else
3141     \def\Hy@temp{hvtexhtm}%
3142     \ifvtexhtml
3143         \ifx\Hy@driver\Hy@temp
3144         \else
3145             \Hy@WarningNoLine{%
3146                 Wrong driver '\Hy@driver.def';\MessageBreak
3147                 VTeX is running in HTML mode.\MessageBreak
3148                 Forcing driver '\Hy@temp.def'%
3149             }%
3150             \let\Hy@driver\Hy@temp
3151         \fi
3152     \else
3153         \ifx\Hy@driver\Hy@temp
3154             \Hy@WarningNoLine{%
3155                 Wrong driver '\Hy@driver.def';\MessageBreak
3156                 VTeX is not running in HTML mode.\MessageBreak
3157                 Using default driver%
3158             }%
3159             \let\Hy@driver\@empty
3160         \fi
3161     \fi
3162 \fi

```

If the driver is not given, find the right driver or use the default driver.

```

3163 \ifx\Hy@driver\@empty
3164     \providecommand*{\Hy@defaultdriver}{hypertex}%
3165     \ifpdf
3166         \def\Hy@driver{hpdfTeX}%
3167     \else
3168         \ifxetex
3169             \def\Hy@driver{hdvipdfm}%
3170         \else
3171             \ifvtexhtml
3172                 \def\Hy@driver{hvtexhtm}%

```

```

3173         \def\MaybeStopEarly{%
3174             \typeout{Hyperref stopped early}%
3175             \AfterBeginDocument{%
3176                 \PDF@FinishDoc
3177                 \gdef\PDF@FinishDoc{%
3178                     }%
3179             \endinput
3180         }%
3181     \else
3182         \ifvtexpdf
3183             \def\Hy@driver{hvtex}%
3184         \else
3185             \ifvtexps
3186                 \def\Hy@driver{hvtex}%
3187             \else
3188                 \let\Hy@driver\Hy@defaultdriver
3189             \fi
3190         \fi
3191     \fi
3192 \fi
3193 \fi
3194 \ifx\Hy@driver\Hy@defaultdriver
3195     \def\Hy@temp{hdvwind}%
3196     \ifx\Hy@temp\Hy@driver
3197         \setkeys{Hyp}{colorlinks}%
3198         \PassOptionsToPackage{dviwindo}{color}%
3199     \fi
3200 \fi
3201 \typeout{*hyperref using default driver \Hy@driver*}%
3202 \else
3203     \typeout{*hyperref using driver \Hy@driver*}%
3204 \fi
3205 \input{\Hy@driver.def}%
3206 \let\@unprocessedoptions\relax
3207 \Hy@RestoreCatcodes
3208 }
3209 \newif\ifHy@DvipdfmxOutlineOpen
3210 \begingroup\expandafter\expandafter\expandafter\endgroup
3211 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
3212 \else
3213     \ifnum\SpecialDvipdfmxOutlineOpen>\z@
3214         \Hy@DvipdfmxOutlineOpentru
3215     \fi
3216 \fi
3217 \Hy@DisableOption{tex4ht}
3218 \Hy@DisableOption{pdftex}
3219 \Hy@DisableOption{nativepdf}
3220 \Hy@DisableOption{dvipdfm}
3221 \Hy@DisableOption{dvipdfmx}
3222 \Hy@DisableOption{dvipdfmx-outline-open}
3223 \Hy@DisableOption{pdfmark}
3224 \Hy@DisableOption{dvips}
3225 \Hy@DisableOption{hypertex}
3226 \Hy@DisableOption{vtex}
3227 \Hy@DisableOption{vtexpdfmark}
3228 \Hy@DisableOption{dviwindo}
3229 \Hy@DisableOption{dvipsone}

```

```

3230 \Hy@DisableOption{textures}
3231 \Hy@DisableOption{latex2html}
3232 \Hy@DisableOption{ps2pdf}
3233 \Hy@DisableOption{xetex}
3234 \AtEndOfPackage{%
3235   \Hy@DisableOption{pdfversion}%
3236 }

```

15.3.2 Bookmarks

```

3237 \def\WriteBookmarks{0}
3238 \def\@bookmarkopenstatus#1{%
3239   \ifHy@bookmarksopen

```

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

```

3240   \ifnum#1<\expandafter\@firstofone\expandafter
3241     {\number\@bookmarkopenlevel} % explicit space
3242   \else
3243     -%
3244   \fi
3245 \else
3246   -%
3247 \fi
3248 }
3249 \ifHy@bookmarks
3250   \Hy@Info{Bookmarks ON}%
3251   \ifx\@pdfpagemode\@empty
3252     \def\@pdfpagemode{UseOutlines}%
3253   \fi
3254 \else
3255   \def\@bookmarkopenstatus#1{%
3256     \Hy@Info{Bookmarks OFF}%
3257     \AtEndOfPackage{%
3258       \global\let\ReadBookmarks\relax
3259       \global\let\WriteBookmarks\relax
3260     }%
3261     \ifx\@pdfpagemode\@empty
3262       \def\@pdfpagemode{UseNone}%
3263     \fi
3264 \fi
3265 \Hy@DisableOption{bookmarks}

```

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

```

3266 \AtBeginDocument{%
3267   \ifHy@ocgcolorlinks
3268     \setkeys{Hyp}{colorlinks}%
3269     \ifHy@pdfa
3270       \Hy@Warning{%
3271         PDF/A: Optional Content Groups are prohibited,\MessageBreak
3272         using ‘colorlinks’ instead of ‘ocgcolorlinks’%
3273       }%
3274       \Hy@ocgcolorlinksfalse
3275     \fi
3276   \fi
3277   \ifHy@ocgcolorlinks
3278   \else
3279     \Hy@DisableOption{ocgcolorlinks}%
3280   \fi

```

```

3281 \ifHy@colorlinks
3282   \def\@pdfborder{0 0 0}%
3283   \let\@pdfborderstyle\@empty
3284   \ifHy@typexml
3285   \else
3286     \RequirePackage{color}%
3287   \fi
3288   \def\Hy@colorlink#1{%
3289     \begingroup
3290     \HyColor@UseColor#1%
3291   }%
3292   \def\Hy@endcolorlink{\endgroup}%
3293   \Hy@Info{Link coloring ON}%
3294 \else
3295   \ifHy@frenchlinks
3296     \def\Hy@colorlink#1{\begingroup\fontshape{sc}\selectfont}%
3297     \def\Hy@endcolorlink{\endgroup}%
3298     \Hy@Info{French linking ON}%
3299   \else
for grouping consistency:
3300     \def\Hy@colorlink#1{\begingroup}%
3301     \def\Hy@endcolorlink{\endgroup}%
3302     \Hy@Info{Link coloring OFF}%
3303   \fi
3304 \fi
3305 \Hy@DisableOption{colorlinks}%
3306 \Hy@DisableOption{frenchlinks}%
3307 \ifHy@texht
3308   \long\def\@firstoffive#1#2#3#4#5{#1}%
3309   \long\def\@secondoffive#1#2#3#4#5{#2}%
3310   \long\def\@thirdoffive#1#2#3#4#5{#3}%
3311   \long\def\@fourthoffive#1#2#3#4#5{#4}%
3312   \long\def\@fifthoffive#1#2#3#4#5{#5}%
3313   \providecommand*\@safe@activestruer{}%
3314   \providecommand*\@safe@activesfalse{}%
3315   \def\T@ref#1{%
3316     \Hy@safe@activestruer
3317     \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%
3318     \Hy@safe@activesfalse
3319   }%
3320   \def\T@pageref#1{%
3321     \Hy@safe@activestruer
3322     \expandafter\@setref\csname r@#1\endcsname\@secondoffive{#1}%
3323     \Hy@safe@activesfalse
3324   }%
3325 \else
3326   \ifHy@typexml\else\RequirePackage{nameref}\fi
3327 \fi
3328 \DeclareRobustCommand\ref{\@ifstar\@refstar\T@ref}%
3329 \DeclareRobustCommand\pageref{%
3330   \@ifstar\@pagerefstar\T@pageref
3331 }%
3332 }
3333 \AfterBeginDocument{%
3334   \ifHy@texht
3335   \else
3336     \ReadBookmarks

```

```

3337 \fi
3338 }
3339 \ifHy@backref
3340 \RequirePackage{backref}%
3341 \else
3342 \let\Hy@backout\@gobble
3343 \fi
3344 \Hy@DisableOption{backref}
3345 \Hy@DisableOption{pagebackref}
3346 \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.

```

3347 \begingroup
3348 \endlinechar=-1 %
3349 \catcode'\^A=14 %
3350 \catcode'\^M\active
3351 \catcode'\%\active
3352 \catcode'\#\active
3353 \catcode'\_\active
3354 \catcode'\$\active
3355 \gdef\hyper@normalise{^A
3356 \begingroup
3357 \catcode'\^M\active
3358 \def^M{ }^A
3359 \catcode'\%\active
3360 \let%\@percentchar
3361 \let%\@percentchar
3362 \catcode'\#\active
3363 \def#{\hyper@hash}^A
3364 \def#{\hyper@hash}^A
3365 \@makeother\&^A
3366 \edef\textunderscore{\string_}^A
3367 \let_\textunderscore
3368 \catcode'\_\active
3369 \let_\textunderscore
3370 \let~\hyper@tilde
3371 \let~\hyper@tilde
3372 \let\textasciitilde\hyper@tilde
3373 \let\\\@backslashchar
3374 \edef$\string$^A
3375 \Hy@safe@activetrue
3376 \hyper@n@rmalise
3377 }^A
3378 \catcode'\#=6 ^A
3379 \gdef\Hy@ActiveCarriageReturn{^M}^A
3380 \gdef\hyper@n@rmalise#1#2{^A
3381 \def\Hy@tempa{#2}^A
3382 \ifx\Hy@tempa\Hy@ActiveCarriageReturn
3383 \Hy@ReturnAfterElseFi{^A

```

```

3384     \hyper@@normalise{#1}^^A
3385   }^^A
3386   \else
3387     \Hy@ReturnAfterFi{^^A
3388     \hyper@@normalise{#1}{#2}^^A
3389   }^^A
3390   \fi
3391 }^^A
3392 \gdef\hyper@@normalise#1#2{^^A
3393   \edef\Hy@tempa{^^A
3394     \endgroup
3395     \noexpand#1{\Hy@RemovePercentCr#2%\@nil}^^A
3396   }^^A
3397   \Hy@tempa
3398 }^^A
3399 \gdef\Hy@RemovePercentCr#1%\@M#2\@nil{^^A
3400   #1^^A
3401   \ifx\limits#2\limits
3402   \else
3403     \Hy@ReturnAfterFi{^^A
3404     \Hy@RemovePercentCr #2\@nil
3405   }^^A
3406   \fi
3407 }^^A
3408 \endgroup
3409 \providecommand*\hyper@chars{%
3410   \let#\hyper@hash
3411   \let%\@percentchar
3412   \Hy@safe@activetrue
3413 }

3414 \def\hyperlink#1#2{%
3415   \hyper@@link{#1}{#2}%
3416 }

3417 \DeclareRobustCommand*\href{%
3418   \@ifnextchar\bgroup\Hy@href{\hyper@normalise\href@}%
3419 }
3420 \def\Hy@href#1{%
3421   \hyper@normalise\href@
3422 }
3423 \begingroup
3424   \catcode'\$=6 %
3425   \catcode'\#=12 %
3426   \gdef\href$1{\expandafter\href@split$1##\}%
3427   \gdef\href@split$1#$2#$3\{\%
3428     \hyper@@link{$1}{$2}%
3429   }%
3430 \endgroup

```

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

```

3431 \RequirePackage{url}
3432 \let\HyOrg@url\url
3433 \def\Hurl{\begingroup \Url}
3434 \DeclareRobustCommand*\nolinkurl{\hyper@normalise\nolinkurl@}
3435 \def\nolinkurl@#1{\Hurl{#1}}
3436 \DeclareRobustCommand*\url{\hyper@normalise\url@}
3437 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}

```

```

3438 \DeclareRobustCommand*\hyperimage{\hyper@normalise\hyper@image}
3439 \providecommand\hyper@image[2]{#2}

3440 \def\hypertarget#1#2{%
3441   \ifHy@nesting
3442     \hyper@@anchor{#1}{#2}%
3443   \else
3444     \hyper@@anchor{#1}{\relax}#2%
3445   \fi
3446 }

```

`\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.

```

3447 \DeclareRobustCommand*\hyperref{%
3448   \@ifnextchar[{\Hy@babelnormalise\label@hyperref}\@hyperref
3449 }
3450 \def\Hy@babelnormalise#1[#2]{%
3451   \begingroup
3452     \Hy@safe@activestrue
3453     \edef\Hy@tempa{%
3454       \endgroup
3455       \noexpand#1[{#2}]%
3456     }%
3457   \Hy@tempa
3458 }
3459 \def\@hyperref{\hyper@normalise\@hyperref}
3460 \def\@hyperref#1#2#3{%
3461   \edef\ref@one{\ifx\\#2\\\else#2.\fi#3}%
3462   \expandafter\tryhyper@link\ref@one\{#1}%
3463 }
3464 \def\tryhyper@link#1\\#2{%
3465   \hyper@@link{#2}{#1}%
3466 }

3467 \def\hyperdef{\@ifnextchar[{\label@hyperdef}\@hyperdef}}
3468 \def\@hyperdef#1#2#3{%, category, name, text
3469   \ifHy@nesting
3470     \hyper@@anchor{#1.#2}{#3}%
3471   \else
3472     \hyper@@anchor{#1.#2}{\relax}#3%
3473   \fi
3474 }

```

We also have a need to give a \LaTeX label to a hyper reference, to ease the pain of referring to it later.

```

3475 \def\label@hyperref[#1]{%
3476   \expandafter\label@\@hyperref\csname r@#1\endcsname{#1}%
3477 }%
3478 \def\label@\@hyperref#1#2#3{%
3479   \ifx#1\relax
3480     \protect\G@refundefinedtrue
3481     \@latex@warning{%
3482       Hyper reference ‘#2’ on page \thepage \space undefined%
3483     }%
3484     \hyper@@link{}{??}{#3}%

```



```

3485 \else
3486   \hyper@@link{\expandafter\@fifthoffive#1}%
3487   {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
3488 \fi
3489 }
3490 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
3491                               % anchor text
3492   \@bspack
3493   \if@filesw
3494     \protected@write\@auxout{%
3495       {\string\newlabel{#1}{\{ }\}\#2.#3}}%
3496   \fi
3497   \@espack
3498   \ifHy@nesting
3499     \hyper@@anchor{#2.#3}{#4}%
3500   \else
3501     \hyper@@anchor{#2.#3}{\relax}#4%
3502   \fi
3503 }

```

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.

```

3504 \def\hyper@@link{\let\Hy@reserved@a\relax
3505   \ifnextchar[{\hyper@link@}{\hyper@link@[link]}}%
3506 }
3507 \def\hyper@link@[#1]#2#3#4{%
3508   \begingroup
3509     \protected@edef\Hy@tempa{#2}%
3510     \Hy@safe@activestrue
3511     \edef\x{#3}%
3512     \ifx\Hy@tempa\@empty
3513       \toks0{\hyper@link{#1}}%
3514     \else
3515       \toks0{\expandafter\hyper@readexternallink#2\{#1}}%
3516     \fi
3517     \toks2{%
3518       \Hy@safe@activesfalse
3519       #4%
3520     }%
3521     \edef\Hy@tempa{\the\toks2}%
3522     \edef\x{\endgroup
3523       \ifx\Hy@tempa\@empty
3524         \noexpand\Hy@Warning{Suppressing empty link}%
3525       \else
3526         \the\toks0 {\x}{\the\toks2}}%
3527     \fi
3528   }%
3529   \x
3530 }

```

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.

```
3531 \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.

```
3532 \expandafter\@hyper@readexternallink{#2}{#3}{#4}#1::\|#1}%
3533 }
```

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

```
3534 \def\@pdftempwordfile{file}%
3535 \def\@pdftempwordrun{run}%
3536 \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:

```
3537 \ifx\|#6\|
3538 \expandafter\@hyper@linkfile file:#7\|#3}{#2}%
3539 \else
3540 \ifx\|#4\|
3541 \expandafter\@hyper@linkfile file:#7\|#3}{#2}%
3542 \else
```

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

```
3543 \def\@pdftempa{#4}%
3544 \ifx\@pdftempa\@pdftempwordfile
3545 \expandafter\@hyper@linkfile#7\|#3}{#2}%
3546 \else
```

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

```
3547 \ifx\@pdftempa\@pdftempwordrun
3548 \ifHy@pdfa
3549 \PackageError{hyperref}{%
3550 PDF/A: Launch action is prohibited%
3551 }\@ehc
3552 \begingroup
3553 \leavevmode
3554 #2%
3555 \endgroup
3556 \else
3557 \expandafter\@hyper@launch#7\|#3}{#2}%
3558 \fi
3559 \else
```

otherwise its a URL

```
3560      \hyper@linkurl{#3}{#7\ifx\\#2\\\else\hyper@hash#2\fi}%
3561      \fi
3562      \fi
3563      \fi
3564      \fi
3565 }
```

By default, turn run: into file:

```
3566 \def\@hyper@launch run:#1\\#2#3{% filename, anchor text, linkname
3567   \hyper@linkurl{#2}{%
3568     \Hy@linkfileprefix
3569     #1%
3570     \ifx\\#3\\%
3571     \else
3572       \hyper@hash
3573       #3%
3574     \fi
3575   }%
3576 }
```

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

```
3577 \def\@hyper@linkfile file:#1\\#2#3{%
3578   %file url,link string, name
3579   \filename@parse{#1}%
3580   \ifx\filename@ext\relax
3581     \edef\filename@ext{\XR@ext}%
3582   \fi
3583   \def\use@file{\filename@area\filename@base.\filename@ext}%
3584   \ifx\filename@ext\XR@ext
3585     \hyper@linkfile{#2}{\use@file}{#3}%
3586   \else
3587     \ifx\@baseurl\@empty
3588       \hyper@linkurl{#2}{%
3589         \Hy@linkfileprefix\use@file\ifx\\#3\\\else\hyper@hash#3\fi
3590       }%
3591     \else
3592       \hyper@linkurl{#2}{\use@file\ifx\\#3\\\else\hyper@hash#3\fi}%
3593     \fi
3594   \fi
3595 }
```

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.

```
3596 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
3597 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
3598   \ifx\\#1\\%
3599     #2\Hy@WarningNoLine{empty link? #1: #2#3}%
3600   \else
3601     \def\anchor@spot{#2#3}%
3602     \let\put@me@back\@empty
3603     \ifx\relax#2\relax
```

```

3604 \else
3605 \ifHy@nesting
3606 \else
3607 \ifcat a\noexpand#2\relax
3608 \else
3609 \ifcat 0\noexpand#2 \relax
3610 \else
3611 % \typeout{Anchor start is not alphanumeric %
3612 % on input line\the\inputlineno%
3613 % }%
3614 \let\anchor@spot\@empty
3615 \def\put@me@back{#2#3}%
3616 \fi
3617 \fi
3618 \fi
3619 \fi
3620 \ifHy@activeanchor
3621 \anchor@spot
3622 \else
3623 \hyper@anchor{#1}%
3624 \fi
3625 \expandafter\put@me@back
3626 \fi
3627 \let\anchor@spot\@empty
3628 }

```

18 Compatibility with the *L^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.

```

3629 \let\htmladding\hyperimage
3630 \def\htmladdnormallink#1#2{\href{#2}{#1}}
3631 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
3632 \def\htmlref#1#2{% anchor text, label
3633 \label@hyperref[{#2}]{#1}%
3634 }

```

This is really too much. The *L^AT_EX2html* 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.

```

3635 \def\@@latextohtmlX{%
3636 \let\hyperref\hyperref
3637 \def\hyperref##1##2##3##4{% anchor text for HTML
3638 % text to print before label in print
3639 % label
3640 % post-label text in print
3641 ##2\ref{##4}##3%
3642 }%
3643 }

```

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.

```
3644 \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
```

```
3645 \def\HyField@NewFlag#1#2{%
3646   \lowercase{\HyField@NewOption{#2}}%
3647   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
3648 }
```

```
\HyField@NewFlagOnly
```

```
3649 \def\HyField@NewFlagOnly#1#2{%
3650   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
3651 }
```

```
\HyField@NewOption #1: option name
```

```
3652 \def\HyField@NewOption#1{%
3653   \expandafter\newif\csname ifFld@#1\endcsname
3654   \define@key{Field}{#1}[true]{%
3655     \lowercase{\Field@boolkey{##1}}{#1}%
3656   }%
3657 }
```

```
\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
```

```
3658 \def\HyField@NewBitsetFlag#1#2#3#4{%
3659   \begingroup
3660     \count@=#4\relax
3661     \advance\count@\m@ne
3662     \def\x##1{%
3663       \endgroup
3664       \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
3665       \expandafter\ifx\csname HyField@#3@##1\endcsname\relax
3666         \expandafter\edef\csname HyField@#3@##1\endcsname{%
3667           (\number#4) #2%
3668         }%
3669       \else
3670         \expandafter\edef\csname HyField@#3@##1\endcsname{%
```

```

3671         \csname HyField@#3@##1\endcsname
3672         /#2%
3673     }%
3674     \fi
3675 }%
3676 \expandafter\x\expandafter{\the\count@}%
3677 }

\HyField@UseFlag The bit set is HyField@#1
3678 \def\HyField@UseFlag#1#2{%
3679     \lowercase{\HyField@@UseFlag{#2}}{#1}%
3680 }

\HyField@@UseFlag
3681 \def\HyField@@UseFlag#1#2{%
3682     \bitsetSetValue{HyField@#2}{%
3683         \csname HyField@#2@#1\endcsname
3684     }{%
3685         \csname ifFld@#1\endcsname 1\else 0\fi
3686     }%
3687 }

\HyField@SetFlag The bit set is HyField@#1
3688 \def\HyField@SetFlag#1#2{%
3689     \lowercase{\HyField@@SetFlag{#2}}{#1}%
3690 }

\HyField@@SetFlag
3691 \def\HyField@@SetFlag#1#2{%
3692     \bitsetSetValue{HyField@#2}{%
3693         \csname HyField@#2@#1\endcsname
3694     }{1}%
3695 }

\HyField@PrintFlags
3696 \def\HyField@PrintFlags#1#2{%
3697     \ifHy@verbose
3698         \begingroup
3699         \let\Hy@temp\@empty
3700         \let\MessageBreak\relax
3701         \expandafter\@for\expandafter\x\expandafter:\expandafter=%
3702         \bitsetGetSetBitList{HyField@#1}\do{%
3703             \edef\Hy@temp{%
3704                 \Hy@temp
3705                 \csname HyField@#1@\x\endcsname\MessageBreak
3706             }%
3707         }%
3708         \edef\x{\endgroup
3709             \noexpand\Hy@Info{%
3710                 Field flags: %
3711                 \expandafter\ifx\@car#1\@nil S\else/\fi
3712                 #1 %
3713                 \bitsetGetDec{HyField@#1} %
3714                 (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
3715                 \Hy@temp
3716                 for #2%

```

```

3717     }%
3718   }\x
3719   \fi
3720 }

```

19.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```

3721 \HyField@NewFlag{Ff}{ReadOnly}{1}
3722 \HyField@NewFlag{Ff}{Required}{2}
3723 \HyField@NewFlag{Ff}{NoExport}{3}

```

“Table 8.75 Field flags specific to button fields”

```

3724 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
3725 \HyField@NewFlag{Ff}{Radio}{16}
3726 \HyField@NewFlag{Ff}{Pushbutton}{17}
3727 \HyField@NewFlag{Ff}{RadiosInUnison}{26}

```

“Table 8.77 Field flags specific to text fields”

```

3728 \HyField@NewFlag{Ff}{Multiline}{13}
3729 \HyField@NewFlag{Ff}{Password}{14}
3730 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
3731 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
3732 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
3733 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
3734 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5

```

“Table 8.79 field flags specific to choice fields”

```

3735 \HyField@NewFlag{Ff}{Combo}{18}
3736 \HyField@NewFlag{Ff}{Edit}{19}
3737 \HyField@NewFlag{Ff}{Sort}{20}
3738 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
3739 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
3740 \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.

```

3741 \newif\ifFld@popdown
3742 \define@key{Field}{popdown}[true]{%
3743   \lowercase{\Field@boolkey{#1}}{popdown}%
3744 }

```

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.

```

3745 \HyField@NewFlag{F}{Invisible}{1}
3746 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
3747 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
3748 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
3749 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
3750 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
3751 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
3752 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
3753 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7

```

```

3754 \ifHy@pdfa
3755   \def\HyField@PDFAFlagWarning#1#2{%
3756     \Hy@Warning{%
3757       PDF/A: Annotation flag ‘#1’ must\MessageBreak
3758       be set to ‘#2’%
3759     }%
3760   }%
3761   \Fld@invisiblefalse
3762   \def\Fld@invisibletrue{%
3763     \HyField@PDFAFlagWarning{invisible}{false}%
3764   }%
3765   \Fld@hiddenfalse
3766   \def\Fld@hiddentrue{%
3767     \HyField@PDFAFlagWarning{hidden}{false}%
3768   }%
3769   \Fld@printtrue
3770   \def\Fld@printfalse{%
3771     \HyField@PDFAFlagWarning{print}{true}%
3772   }%
3773   \Fld@nozoomtrue
3774   \def\Fld@nozoomfalse{%
3775     \HyField@PDFAFlagWarning{nozoom}{true}%
3776   }%
3777   \Fld@norotatetrue
3778   \def\Fld@norotatefalse{%
3779     \HyField@PDFAFlagWarning{norotate}{true}%
3780   }%
3781   \Fld@noviewfalse
3782   \def\Fld@noviewtrue{%
3783     \HyField@PDFAFlagWarning{noview}{false}%
3784   }%
3785 \fi

```

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

```

3786 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
3787 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
3788 \HyField@NewFlag{Submit}{GetMethod}{4}
3789 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
3790 \HyField@NewFlagOnly{Submit}{XFDF}{6}
3791 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
3792 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
3793 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
3794 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
3795 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
3796 \HyField@NewFlag{Submit}{ExclFKey}{12}
3797 \HyField@NewFlag{Submit}{EmbedForm}{14}

3798 \define@key{Field}{export}{%
3799   \lowercase{\def\Hy@temp{#1}}%
3800   \@ifundefined{Fld@export@\Hy@temp}{%
3801     \@onelevel@sanitize\Hy@temp
3802     \PackageError{hyperref}{%
3803       Unknown export format ‘\Hy@temp’.\MessageBreak
3804       Known formats are ‘FDF’, ‘HTML’, ‘XFDF’, and ‘PDF’%
3805     }\@ehc
3806   }{%
3807     \let\Fld@export\Hy@temp
3808   }%

```



```

3809 }
3810 \def\Fld@export{fdf}
3811 \@namedef{Fld@export@fdf}{0}%
3812 \@namedef{Fld@export@html}{1}%
3813 \@namedef{Fld@export@xfdf}{2}%
3814 \@namedef{Fld@export@pdf}{3}%

```

19.1.2 Set submit flags

\HyField@FlagsSubmit

```

3815 \def\HyField@FlagsSubmit{%
3816   \bitsetReset{HyField@Submit}%
3817   \ifcase\@nameuse{Fld@export@}\Fld@export} %
3818   % FDF
3819   \HyField@UseFlag{Submit}{IncludeNoValueFields}%
3820   \HyField@UseFlag{Submit}{SubmitCoordinates}%
3821   \HyField@UseFlag{Submit}{IncludeAppendSaves}%
3822   \HyField@UseFlag{Submit}{IncludeAnnotations}%
3823   \HyField@UseFlag{Submit}{CanonicalFormat}%
3824   \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
3825   \HyField@UseFlag{Submit}{ExclFKey}%
3826   \HyField@UseFlag{Submit}{EmbedForm}%
3827   \or % HTML
3828   \HyField@SetFlag{Submit}{ExportFormat}%
3829   \HyField@UseFlag{Submit}{IncludeNoValueFields}%
3830   \HyField@UseFlag{Submit}{GetMethod}%
3831   \HyField@UseFlag{Submit}{SubmitCoordinates}%
3832   \HyField@UseFlag{Submit}{CanonicalFormat}%
3833   \or % XFDF
3834   \HyField@SetFlag{Submit}{XFDF}%
3835   \HyField@UseFlag{Submit}{IncludeNoValueFields}%
3836   \HyField@UseFlag{Submit}{SubmitCoordinates}%
3837   \HyField@UseFlag{Submit}{CanonicalFormat}%
3838   \or % PDF
3839   \HyField@SetFlag{Submit}{SubmitPDF}%
3840   \HyField@UseFlag{Submit}{GetMethod}%
3841   \fi
3842   \HyField@PrintFlags{Submit}{submit button field}%
3843   \bitsetIsEmpty{HyField@Submit}{%
3844     \def\Fld@submitflags{%
3845     }{%
3846     \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}%
3847   }%
3848 }

```

19.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```

3849 \def\HyField@FlagsAnnot#1{%
3850   \bitsetReset{HyField@F}%
3851   \HyField@UseFlag{F}{Invisible}%
3852   \HyField@UseFlag{F}{Hidden}%
3853   \HyField@UseFlag{F}{Print}%
3854   \HyField@UseFlag{F}{NoZoom}%
3855   \HyField@UseFlag{F}{NoRotate}%
3856   \HyField@UseFlag{F}{NoView}%

```

```

3857 \HyField@UseFlag{F}{Locked}%
3858 \HyField@UseFlag{F}{ToggleNoView}%
3859 \HyField@UseFlag{F}{LockedContents}%
3860 \HyField@PrintFlags{F}{#1}%
3861 \bitsetIsEmpty{HyField@F}{%
3862     \def\Fld@annotflags{%
3863     }{%
3864     \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}%
3865     }%
3866 }

```

19.1.4 Pushbutton field

\HyField@FlagsPushButton

```

3867 \def\HyField@FlagsPushButton{%
3868 \HyField@FlagsAnnot{push button field}%
3869 \bitsetReset{HyField@Ff}%
3870 \HyField@UseFlag{Ff}{ReadOnly}%
3871 \HyField@UseFlag{Ff}{Required}%
3872 \HyField@UseFlag{Ff}{NoExport}%
3873 \HyField@SetFlag{Ff}{PushButton}%
3874 \HyField@PrintFlags{Ff}{push button field}%
3875 \bitsetIsEmpty{HyField@Ff}{%
3876     \def\Fld@flags{%
3877     }{%
3878     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
3879     }%
3880 }

```

19.1.5 Check box field

\HyField@FlagsCheckBox

```

3881 \def\HyField@FlagsCheckBox{%
3882 \HyField@FlagsAnnot{check box field}%
3883 \bitsetReset{HyField@Ff}%
3884 \HyField@UseFlag{Ff}{ReadOnly}%
3885 \HyField@UseFlag{Ff}{Required}%
3886 \HyField@UseFlag{Ff}{NoExport}%
3887 \HyField@PrintFlags{Ff}{check box field}%
3888 \bitsetIsEmpty{HyField@Ff}{%
3889     \def\Fld@flags{%
3890     }{%
3891     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
3892     }%
3893 }

```

19.1.6 Radio button field

\HyField@FlagsRadioButton

```

3894 \def\HyField@FlagsRadioButton{%
3895 \HyField@FlagsAnnot{radio button field}%
3896 \bitsetReset{HyField@Ff}%
3897 \HyField@UseFlag{Ff}{ReadOnly}%
3898 \HyField@UseFlag{Ff}{Required}%
3899 \HyField@UseFlag{Ff}{NoExport}%
3900 \HyField@UseFlag{Ff}{NoToggleToOff}%

```

```

3901 \HyField@SetFlag{Ff}{Radio}%
3902 \HyField@UseFlag{Ff}{RadiosInUnison}%
3903 \HyField@PrintFlags{Ff}{radio button field}%
3904 \bitsetIsEmpty{HyField@Ff}{%
3905   \def\Fld@flags{%
3906 }{%
3907   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
3908 }%
3909 }

```

19.1.7 Text fields

\HyField@FlagsText

```

3910 \def\HyField@FlagsText{%
3911   \HyField@FlagsAnnot{text field}%
3912   \bitsetReset{HyField@Ff}%
3913   \HyField@UseFlag{Ff}{ReadOnly}%
3914   \HyField@UseFlag{Ff}{Required}%
3915   \HyField@UseFlag{Ff}{NoExport}%
3916   \HyField@UseFlag{Ff}{Multiline}%
3917   \HyField@UseFlag{Ff}{Password}%
3918   \HyField@UseFlag{Ff}{FileSelect}%
3919   \HyField@UseFlag{Ff}{DoNotSpellCheck}%
3920   \HyField@UseFlag{Ff}{DoNotScroll}%
3921   \ifFld@comb
3922     \ifcase0\ifFld@multiline
3923       \else\ifFld@password
3924       \else\ifFld@fileselect
3925       \else 1\fi\fi\fi\relax
3926     \PackageError{hyperref}{%
3927       Field option ‘comb’ cannot be used together with\MessageBreak
3928       ‘multiline’, ‘password’, or ‘fileselect’%
3929     }\@ehc
3930   \else
3931     \HyField@UseFlag{Ff}{Comb}%
3932   \fi
3933 \fi
3934 \HyField@UseFlag{Ff}{RichText}%
3935 \HyField@PrintFlags{Ff}{text field}%
3936 \bitsetIsEmpty{HyField@Ff}{%
3937   \def\Fld@flags{%
3938 }{%
3939   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
3940 }%
3941 }

```

19.1.8 Choice fields

\HyField@FlagsChoice

```

3942 \def\HyField@FlagsChoice{%
3943   \HyField@FlagsAnnot{choice field}%
3944   \bitsetReset{HyField@Ff}%
3945   \HyField@UseFlag{Ff}{ReadOnly}%
3946   \HyField@UseFlag{Ff}{Required}%
3947   \HyField@UseFlag{Ff}{NoExport}%
3948   \HyField@UseFlag{Ff}{Combo}%

```

```

3949 \ifFld@combo
3950   \HyField@UseFlag{Ff}{Edit}%
3951 \fi
3952 \HyField@UseFlag{Ff}{Sort}%
3953 \HyField@UseFlag{Ff}{MultiSelect}%
3954 \ifFld@combo
3955   \ifFld@edit
3956     \HyField@UseFlag{Ff}{DoNotSpellCheck}%
3957   \fi
3958 \fi
3959 \HyField@UseFlag{Ff}{CommitOnSelChange}%
3960 \HyField@PrintFlags{Ff}{choice field}%
3961 \bitsetIsEmpty{HyField@Ff}{%
3962   \def\Fld@flags{%
3963   }{%
3964     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
3965   }%
3966 }

```

19.2 Choice field

```

3967 \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`.

```

3968 \def\HyField@PDFChoices#1{%
3969   \begingroup
3970   \gdef\Fld@choices{%
3971     \def\HyTmp@optlist{%
3972       \let\HyTmp@optitem\relax
3973       \count@=0 %
3974       \kv@parse{#1}{%
3975         \Hy@pdfstringdef\kv@key\kv@key
3976         \ifx\kv@value\relax
3977           \ifnum\Hy@pdfversion<3 % implementation note 122, PDF spec 1.7
3978             \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@key)]}%
3979           \else
3980             \xdef\Fld@choices{\Fld@choices(\kv@key)}%
3981           \fi
3982         \else
3983           \Hy@pdfstringdef\kv@value\kv@value
3984           \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@value)]}%
3985         \fi
3986       \edef\HyTmp@optlist{%
3987         \HyTmp@optlist
3988         \HyTmp@optitem{\the\count@}{\kv@key}0%
3989       }%
3990       \advance\count@ by 1 %
3991       \@gobbletwo
3992     }%
3993     \xdef\Fld@choices{/Opt[\Fld@choices]}%
3994   \ifFld@multiselect
3995     \HyField@@PDFChoices{DV}\Fld@default
3996     \HyField@@PDFChoices{V}\Fld@value
3997   \else
3998     \ifx\Fld@default\relax

```

```

3999     \else
4000     \pdfstringdef\Hy@gtemp\Fld@default
4001     \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
4002     \fi
4003     \ifx\Fld@value\relax
4004     \else
4005     \pdfstringdef\Hy@gtemp\Fld@value
4006     \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%
4007     \fi
4008     \fi
4009 \endgroup
4010 }

```

\HyField@@PDFChoices

```

4011 \def\HyField@@PDFChoices#1#2{%
4012     \ifx#2\relax
4013     \else
4014     \count@=0 %
4015     \def\HyTmp@optitem##1##2##3{%
4016     \def\HyTmp@key{##2}%
4017     \ifx\HyTmp@key\Hy@gtemp
4018     \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
4019     \HyTmp@optlist
4020     \HyTmp@optitem{##1}{##2}1%
4021     }%
4022     \let\HyTmp@found=Y%
4023     \else
4024     \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
4025     \HyTmp@optlist
4026     \HyTmp@optitem{##1}{##2}##3%
4027     }%
4028     \fi
4029     }%
4030     \expandafter\comma@parse\expandafter{#2}{%
4031     \pdfstringdef\Hy@gtemp\comma@entry
4032     \let\HyTmp@found=N %
4033     \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
4034     \HyTmp@optlist
4035     \ifx\HyTmp@found Y%
4036     \advance\count@ by 1 %
4037     \else
4038     \@onelevel@sanitize\comma@entry
4039     \PackageWarning{hyperref}{%
4040     \string\ChoiceBox: Ignoring value ‘\comma@entry’,%
4041     \MessageBreak
4042     it cannot be found in the choices%
4043     }%
4044     \fi
4045     \@gobble
4046     }%
4047     \def\HyTmp@optitem##1##2##3{%
4048     \ifnum##3=1 %
4049     (##2)%
4050     \fi
4051     }%
4052     \ifcase\count@
4053     \or

```

```

4054     \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
4055     \else
4056     \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]]}%
4057     \ifx#1V%
4058     \def\HyTmp@optitem##1##2##3{%
4059     \ifnum##3=1 %
4060     \@firstofone{ ##1}%
4061     \fi
4062     }%
4063     \edef\HyTmp@optlist{\HyTmp@optlist}%
4064     \xdef\Fld@choices{%
4065     \Fld@choices
4066     /I[\expandafter\@firstofone\HyTmp@optlist]}%
4067     }%
4068     \fi
4069     \fi
4070     \fi
4071 }

```

19.3 Forms

\HyField@SetKeys

```

4072 \def\HyField@SetKeys{%
4073   \setkeys{Field}%
4074 }

4075 \newif\ifFld@checked
4076 \newif\ifFld@disabled
4077 \Fld@checkedfalse
4078 \Fld@disabledfalse
4079 \newcount\Fld@menulength
4080 \newdimen\Field@Width
4081 \newdimen\Fld@charsize
4082 \Fld@charsize=10\p@
4083 \def\Fld@maxlen{0}
4084 \def\Fld@align{0}
4085 \def\Fld@color{0 0 0 rg}
4086 \def\Fld@bcolor{1 1 1}
4087 \def\Fld@bordercolor{1 0 0}
4088 \def\Fld@bordersep{1\p@}
4089 \def\Fld@borderwidth{1}
4090 \def\Fld@borderstyle{S}
4091 \def\Fld@cbsymbol{4}
4092 \def\Fld@rotation{0}
4093 \def\Form{\@ifnextchar[{\@Form}{\@Form[]}}
4094 \def\endForm{\@endForm}
4095 \newif\ifForm@html
4096 \Form@htmlfalse
4097 \def\Form@boolkey#1#2{%
4098   \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
4099 }
4100 \define@key{Form}{action}{%
4101   \hyper@normalise\Hy@DefFormAction{#1}%
4102 }
4103 \def\Hy@DefFormAction{\def\Form@action}
4104 \def\enc@html{html}
4105 \define@key{Form}{encoding}{%

```

```

4106 \def\Hy@tempa{#1}%
4107 \ifx\Hy@tempa\enc@html
4108   \Form@htmltrue
4109   \def\Fld@export{html}%
4110 \else
4111   \typeout{hyperref: form 'encoding' key set to #1 %
4112     -- unknown type%
4113   }%
4114   \Form@htmlfalse
4115 \fi
4116 }
4117 \define@key{Form}{method}{%
4118   \lowercase{\def\Hy@temp{#1}}%
4119   \@ifundefined{Form@method@\Hy@temp}{%
4120     \@onelevel@sanitize\Hy@temp
4121     \PackageError{hyperref}{%
4122       Unknown method '\Hy@temp'.\MessageBreak
4123       Known values are 'post' and 'get'%
4124     }\@ehc
4125   }{%
4126     \let\Form@method\Hy@temp
4127     \ifcase\@nameuse{Form@method@\Hy@temp} %
4128       \Fld@getmethodfalse
4129     \else
4130       \Fld@getmethodtrue
4131     \fi
4132   }%
4133 }
4134 \def\Form@method{}
4135 \@namedef{Form@method@post}{0}
4136 \@namedef{Form@method@get}{1}
4137 \def\Field@boolkey#1#2{%
4138   \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
4139 }
4140 \newtoks\Field@toks
4141 \Field@toks={ }%
4142 \def\Field@addtoks#1#2{%
4143   \edef\@processme{\Field@toks{\the\Field@toks\space #1="#2"}}%
4144   \@processme
4145 }
4146 \def\Fld@checkequals#1=#2=#3\{\%
4147   \def\@currDisplay{#1}%
4148   \ifx\#2\%
4149     \def\@currValue{#1}%
4150   \else
4151     \def\@currValue{#2}%
4152   \fi
4153 }
4154 \define@key{Field}{loc}{%
4155   \def\Fld@loc{#1}%
4156 }
4157 \define@key{Field}{checked}[true]{%
4158   \lowercase{\Field@boolkey{#1}}{checked}%
4159 }
4160 \define@key{Field}{disabled}[true]{%
4161   \lowercase{\Field@boolkey{#1}}{disabled}%
4162 }

```

```

4163 \define@key{Field}{accesskey}{%
4164   \Field@addtoks{accesskey}{#1}%
4165 }
4166 \define@key{Field}{tabkey}{%
4167   \Field@addtoks{tabkey}{#1}%
4168 }
4169 \define@key{Field}{name}{%
4170   \def\Fld@name{#1}%
4171 }
4172 \define@key{Field}{width}{%
4173   \def\Fld@width{#1}%
4174   \Field@Width#1\setbox0=\hbox{m}%
4175 }
4176 \define@key{Field}{maxlen}{%
4177   \def\Fld@maxlen{#1}%
4178 }
4179 \define@key{Field}{menulength}{%
4180   \Fld@menulength=#1\relax
4181 }
4182 \define@key{Field}{height}{%
4183   \def\Fld@height{#1}%
4184 }
4185 \define@key{Field}{charsize}{%
4186   \Fld@charsize#1%
4187 }
4188 \define@key{Field}{borderwidth}{%
4189   \def\Fld@borderwidth{#1}%
4190 }
4191 \define@key{Field}{borderstyle}{%
4192   \def\Fld@borderstyle{#1}%
4193 }
4194 \define@key{Field}{bordersep}{%
4195   \def\Fld@bordersep{#1}%
4196 }
4197 \define@key{Field}{default}{%
4198   \def\Fld@default{#1}%
4199 }
4200 \define@key{Field}{align}{%
4201   \def\Fld@align{#1}%
4202 }
4203 \define@key{Field}{value}{%
4204   \def\Fld@value{#1}%
4205 }
4206 \define@key{Field}{checkboxsymbol}{%
4207   \def\Fld@cbsymbol{#1}%
4208 }
4209 \define@key{Field}{rotation}{%
4210   \def\Fld@rotation{#1}%
4211 }
4212 \define@key{Field}{backgroundcolor}{%
4213   \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
4214 }
4215 \define@key{Field}{bordercolor}{%
4216   \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
4217 }
4218 \define@key{Field}{color}{%
4219   \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%

```



```

4220 }

4221 \def\Fld@format@code{}
4222 \def\Fld@validate@code{}
4223 \def\Fld@calculate@code{}
4224 \def\Fld@keystroke@code{}
4225 \def\Fld@onfocus@code{}
4226 \def\Fld@onblur@code{}
4227 \def\Fld@onmousedown@code{}
4228 \def\Fld@onmouseup@code{}
4229 \def\Fld@onenter@code{}
4230 \def\Fld@onexit@code{}
4231 \def\Hy@temp#1{%
4232   \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
4233 }
4234 \def\Hy@@temp#1#2{%
4235   \ifHy@pdfa
4236     \define@key{Field}{#2}{%
4237       \PackageError{hyperref}{%
4238         PDF/A: Additional action ‘#2’ is prohibited%
4239       }\@ehc
4240     }%
4241   \else
4242     \define@key{Field}{#2}{%
4243       \def#1{##1}%
4244     }%
4245   \fi
4246 }
4247 \Hy@temp{keystroke}
4248 \Hy@temp{format}
4249 \Hy@temp{validate}
4250 \Hy@temp{calculate}
4251 \Hy@temp{onfocus}
4252 \Hy@temp{onblur}
4253 \Hy@temp{onenter}
4254 \Hy@temp{onexit}
4255 \def\Hy@temp#1{%
4256   \define@key{Field}{#1}{%
4257     \Field@addtoks{#1}{##1}%
4258   }%
4259 }
4260 \Hy@temp{onselect}
4261 \Hy@temp{onchange}
4262 \Hy@temp{ondblclick}
4263 \Hy@temp{onmousedown}
4264 \Hy@temp{onmouseup}
4265 \Hy@temp{onmouseover}
4266 \Hy@temp{onmousemove}
4267 \Hy@temp{onmouseout}
4268 \Hy@temp{onkeypress}
4269 \Hy@temp{onkeydown}
4270 \Hy@temp{onkeyup}
4271 \ifHy@pdfa
4272   \define@key{Field}{onclick}{%
4273     \PackageError{hyperref}{%
4274       PDF/A: Action ‘onclick’ is prohibited%
4275     }\@ehc
4276   }%

```

```

4277 \else
4278   \define@key{Field}{onclick}{%
4279     \def\Fld@onclick{#1}%
4280     \Field@addtoks{onclick}{#1}%
4281   }%
4282 \fi

4283 \DeclareRobustCommand\TextField{%
4284   \@ifnextchar[{\@TextField}{\@TextField[]}%
4285 }
4286 \DeclareRobustCommand\ChoiceMenu{%
4287   \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
4288 }
4289 \DeclareRobustCommand\CheckBox{%
4290   \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
4291 }
4292 \DeclareRobustCommand\PushButton{%
4293   \@ifnextchar[{\@PushButton}{\@PushButton[]}%
4294 }
4295 \DeclareRobustCommand\Gauge{%
4296   \@ifnextchar[{\@Gauge}{\@Gauge[]}%
4297 }
4298 \DeclareRobustCommand\Submit{%
4299   \@ifnextchar[{\@Submit}{\@Submit[]}%
4300 }
4301 \DeclareRobustCommand\Reset{%
4302   \@ifnextchar[{\@Reset}{\@Reset[]}%
4303 }
4304 \def\LayoutTextField#1#2{% label, field
4305   #1 #2%
4306 }
4307 \def\LayoutChoiceField#1#2{% label, field
4308   #1 #2%
4309 }
4310 \def\LayoutCheckField#1#2{% label, field
4311   #1 #2%
4312 }
4313 \def\LayoutPushButtonField#1{% button
4314   #1%
4315 }
4316 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4317 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4318 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4319 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4320 \def\MakeButtonField#1{%
4321   \sbox0{%
4322     \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
4323   }%
4324   \@tempdima\ht0 %
4325   \advance\@tempdima by \Fld@borderwidth bp %
4326   \advance\@tempdima by \Fld@borderwidth bp %
4327   \ht0\@tempdima
4328   \@tempdima\dp0 %
4329   \advance\@tempdima by \Fld@borderwidth bp %
4330   \advance\@tempdima by \Fld@borderwidth bp %
4331   \dp0\@tempdima
4332   \box0\relax
4333 }

```

```

4334 \def\DefaultHeightofSubmit{14pt}
4335 \def\DefaultWidthofSubmit{2cm}
4336 \def\DefaultHeightofReset{14pt}
4337 \def\DefaultWidthofReset{2cm}
4338 \def\DefaultHeightofCheckBox{\baselineskip}
4339 \def\DefaultWidthofCheckBox{\baselineskip}
4340 \def\DefaultHeightofChoiceMenu{\baselineskip}
4341 \def\DefaultWidthofChoiceMenu{\baselineskip}
4342 \def\DefaultHeightofText{\baselineskip}
4343 \def\DefaultHeightofTextMultiline{4\baselineskip}
4344 \def\DefaultWidthofText{3cm}
4345 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
4346 \def\DefaultOptionsofReset{print,name=Reset,noexport}
4347 \def\DefaultOptionsofPushButton{print}
4348 \def\DefaultOptionsofCheckBox{print}
4349 \def\DefaultOptionsofText{print}

```

Default options for the types of \ChoiceMenu.

```

4350 \def\DefaultOptionsofListBox{print}
4351 \def\DefaultOptionsofComboBox{print,edit,sort}
4352 \def\DefaultOptionsofPopdownBox{print}
4353 \def\DefaultOptionsofRadio{print,notoggletooff}

```

20 Setup

```

4354 \ifHy@figures
4355   \Hy@Info{Hyper figures ON}%
4356 \else
4357   \Hy@Info{Hyper figures OFF}%
4358 \fi
4359 \ifHy@nesting
4360   \Hy@Info{Link nesting ON}%
4361 \else
4362   \Hy@Info{Link nesting OFF}%
4363 \fi
4364 \ifHy@hyperindex
4365   \Hy@Info{Hyper index ON}%
4366 \else
4367   \Hy@Info{Hyper index OFF}%
4368 \fi
4369 \ifHy@backref
4370   \Hy@Info{backreferencing ON}%
4371 \else
4372   \Hy@Info{backreferencing OFF}%
4373 \fi
4374 \ifHy@colorlinks
4375   \Hy@Info{Link coloring ON}%
4376 \else
4377   \Hy@Info{Link coloring OFF}%
4378 \fi
4379 \ifHy@ocgcolorlinks
4380   \Hy@Info{Link coloring with OCG ON}%
4381 \else
4382   \Hy@Info{Link coloring with OCG OFF}%
4383 \fi
4384 \ifHy@pdfa
4385   \Hy@Info{PDF/A mode ON}%

```

```

4386 \else
4387   \Hy@Info{PDF/A mode OFF}%
4388 \fi

```

21 Low-level utility macros

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

```

4389 \edef\hyper@hash{\string#}
4390 \edef\hyper@tilde{\string~}
4391 \edef\hyper@quote{\string"}
4392 \let\@currentHref\@empty
4393 \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.

```

4394 \AfterBeginDocument{%
4395   \Hy@pdfstringtrue
4396   \PDF@SetupDoc
4397   \let\PDF@SetupDoc\@empty
4398   \Hy@DisableOption{pdfpagescrop}%
4399   \Hy@DisableOption{pdfpagemode}%
4400   \Hy@DisableOption{pdfnonfullscreenpagemode}%
4401   \Hy@DisableOption{pdfdirection}%
4402   \Hy@DisableOption{pdfviewarea}%
4403   \Hy@DisableOption{pdfviewclip}%
4404   \Hy@DisableOption{pdfprintarea}%
4405   \Hy@DisableOption{pdfprintclip}%
4406   \Hy@DisableOption{pdfprintscaling}%
4407   \Hy@DisableOption{pdfduplex}%
4408   \Hy@DisableOption{pdfpicktraybypdfsize}%
4409   \Hy@DisableOption{pdfprintpagerange}%
4410   \Hy@DisableOption{pdfnumcopies}%
4411   \Hy@DisableOption{pdfstartview}%
4412   \Hy@DisableOption{pdfstartpage}%
4413   \Hy@DisableOption{pdftoolbar}%
4414   \Hy@DisableOption{pdfmenubar}%
4415   \Hy@DisableOption{pdfwindowui}%
4416   \Hy@DisableOption{pdffitwindow}%
4417   \Hy@DisableOption{pdfcenterwindow}%
4418   \Hy@DisableOption{pdfdisplaydoctitle}%
4419   \Hy@DisableOption{pdfpagelayout}%
4420   \Hy@DisableOption{pdflang}%
4421   \Hy@DisableOption{baseurl}%
4422   \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
4423   \Hy@pdfstringfalse
4424 }

```

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.

```

4425 \def\NoHyper{%
4426   \def\hyper@link@{##1}##2##3##4{##4}%
4427   \def\hyper@@anchor##1{}}%

```

```

4428 \global\let\hyper@livelink\hyper@link
4429 \gdef\hyper@link##1##2##3{##3}%
4430 \def\hyper@anchorstart##1{}%
4431 \let\hyper@anchorend\@empty
4432 \def\hyper@linkstart##1##2{}%
4433 \let\hyper@linkend\@empty
4434 \def\hyper@linkurl##1##2{##1}%
4435 \def\hyper@linkfile##1##2##3{##1}%
4436 \def\hyper@link@{##1}##2##3{}%
4437 \let\Hy@backout\@gobble
4438 }
4439 \def\stop@hyper{%
4440 \def\hyper@link@{##1}##2##3##4{##4}%
4441 \let\Hy@backout\@gobble
4442 \def\hyper@@anchor##1{}%
4443 \def\hyper@link##1##2##3{##3}%
4444 \def\hyper@anchorstart##1{}%
4445 \let\hyper@anchorend\@empty
4446 \def\hyper@linkstart##1##2{}%
4447 \let\hyper@linkend\@empty
4448 \def\hyper@linkurl##1##2{##1}%
4449 \def\hyper@linkfile##1##2##3{##1}%
4450 \def\hyper@link@{##1}##2##3{}%
4451 }
4452 \def\endNoHyper{%
4453 \global\let\hyper@link\hyper@livelink
4454 }
4455 \</package>

```

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:

```

4456 \*nohyperref
4457 \let\hyper@@anchor\@gobble
4458 \def\hyper@link#1#2#3{#3}%
4459 \let\hyper@anchorstart\@gobble
4460 \let\hyper@anchorend\@empty
4461 \let\hyper@linkstart\@gobbletwo
4462 \let\hyper@linkend\@empty
4463 \def\hyper@linkurl#1#2{#1}%
4464 \def\hyper@linkfile#1#2#3{#1}%
4465 \def\hyper@link@{#1}#2#3{}%
4466 \let\PDF@SetupDoc\@empty
4467 \let\PDF@FinishDoc\@empty
4468 \def\nohyperpage#1{#1}

```

Some top-level commands:

```

4469 \def\Acrobatmenu#1#2{\leavevmode#2}
4470 \let\pdfstringdefDisableCommands\@gobbletwo
4471 \let\texorpdfstring\@firstoftwo
4472 \let\pdfbookmark\@undefined

```

```

4473 \newcommand\pdfbookmark[3] [] {}
4474 \let\phantomsection\@empty
4475 \let\hypersetup\@gobble
4476 \let\hyperbaseurl\@gobble
4477 \let\href\@gobble
4478 \let\hyperdef\@gobbletwo
4479 \let\hyperlink\@gobble
4480 \let\hypertarget\@gobble
4481 \def\hyperref{%
4482   \@ifnextchar[\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
4483 }
4484 \long\def\@gobbleopt[#1]{}
4485 \let\hyperpage\@empty
4486 \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}`

```

4487 \*package
4488 \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.

```

4489 \if@filesw
4490   \ifHy@typexml
4491     \immediate\closeout\@mainaux
4492     \immediate\openout\@mainaux\jobname.aux\relax
4493     \immediate\write\@auxout{<relaxxml>\relax}%
4494   \fi
4495   \immediate\write\@auxout{%
4496     \string\ifx\string\hyper@anchor\string\@undefined^^J%
4497     \global\let\string\oldcontentsline\string\contentsline^^J%
4498     \gdef\string\contentsline%
4499       \string#1\string#2\string#3\string#4{%
4500       \string\oldcontentsline%
4501       {\string#1}{\string#2}{\string#3}}^^J%
4502     \global\let\string\oldnewlabel\string\newlabel^^J%
4503     \gdef\string\newlabel\string#1\string#2{%
4504     \string\newlabelxx{\string#1}\string#2}^^J%
4505     \gdef\string\newlabelxx%
4506       \string#1\string#2\string#3\string#4\string#5\string#6{%
4507       \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.

```

4508   \string\AtEndDocument{%
4509     \let\string\contentsline\string\oldcontentsline^^J%
4510     \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.

```

4511   \string\else^^J%
4512   \global\let\string\hyper@last\relax^^J%

```

```

4513     \string\fi^^J%
4514   }%
4515   \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.

```

4516   \ifx\hyper@last\@undefined
4517     \def\@starttoc#1{%
4518       \begingroup
4519         \makeatletter
4520         \IfFileExists{\jobname.#1}{%
4521           \Hy@WarningNoLine{%
4522             old #1 file detected, not used; run LaTeX again%
4523           }%
4524         }{}%
4525         \if@filesw
4526           \expandafter\newwrite\csname tf@#1\endcsname
4527           \immediate\openout\csname tf@#1\endcsname \jobname.#1\relax
4528         \fi
4529         \@nobreakfalse
4530       \endgroup
4531     }%
4532     \def\newlabel#1#2{\@newl@bel r{#1}{#2}{}{}{}}%
4533   \fi
4534 }

```

25 Title strings

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

```

4535 \ifHy@usetitle
4536   \let\HyOrg@title\title
4537   \let\HyOrg@author\author
4538   \def\title{\@ifnextchar[{\Hy@scanopttitle}{\Hy@scantitle}}%
4539   \def\Hy@scanopttitle[#1]{%
4540     \gdef\Hy@title{#1}%
4541     \HyOrg@title[{#1}]%
4542   }%
4543   \def\Hy@scantitle#1{%
4544     \gdef\Hy@title{#1}%
4545     \HyOrg@title{#1}%
4546   }%
4547   \def\author{\@ifnextchar[{\Hy@scanoptauthor}{\Hy@scanauthor}}%
4548   \def\Hy@scanoptauthor[#1]{%
4549     \gdef\Hy@author{#1}%
4550     \HyOrg@author[{#1}]%
4551   }%
4552   \def\Hy@scanauthor#1{%
4553     \gdef\Hy@author{#1}%
4554     \HyOrg@author{#1}%
4555   }%

```

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.

```

4556 \begin{group}
4557   \def\process@me#1\@nil#2{%
4558     \expandafter\let\expandafter\x\csname @#2\endcsname
4559     \edef\y{\expandafter\strip@prefix\meaning\x}%
4560     \def\c##1##2\@nil{%
4561       \ifx\\##1\\%
4562       \else
4563         \expandafter\gdef\csname Hy@#2\expandafter\endcsname
4564         \expandafter{\x}%
4565       \fi
4566     }%
4567     \expandafter\c\y\relax#1\@nil
4568   }%
4569   \expandafter\process@me\string\@latex@\@nil{title}%
4570   \expandafter\process@me\string\@latex@\@nil{author}%
4571 \end{group}
4572 \fi
4573 \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.

```

4574 \def\Hy@UseMaketitleString#1{%
4575   \@ifundefined{Hy@#1}{ }{%
4576     \begin{group}
4577       \let\Hy@saved@hook\pdfstringdefPreHook
4578       \pdfstringdefDisableCommands{%
4579         \expandafter\let\expandafter\\ \csname Hy@newline@#1\endcsname
4580         \let\newline\\%
4581       }%
4582       \expandafter\ifx\csname @pdf#1\endcsname \@empty
4583         \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
4584           \csname Hy@#1\endcsname \@empty
4585         }%
4586       \fi
4587       \global\let\pdfstringdefPreHook\Hy@saved@hook
4588     \end{group}
4589   }%
4590 }
4591 \def\Hy@newline@title#1{ #1}
4592 \def\Hy@newline@author#1{ , #1}
4593 \def\Hy@UseMaketitleInfos{%
4594   \Hy@UseMaketitleString{title}%
4595   \Hy@UseMaketitleString{author}%
4596 }

```


26 Page numbers

This stuff is done by Heiko Oberdiek.

27 Every page

```
4597 \RequirePackage{atbegshi}[2007/09/09]
4598 \def\Hy@EveryPageHook{}
4599 \def\Hy@EveryPageBoxHook{}
4600 \def\Hy@FirstPageHook{}
4601 \AtBeginShipout{%
4602   \Hy@EveryPageHook
4603   \ifx\Hy@EveryPageBoxHook\@empty
4604   \else
4605     \setbox\AtBeginShipoutBox=\vbox{%
4606       \offinterlineskip
4607       \Hy@EveryPageBoxHook
4608       \box\AtBeginShipoutBox
4609     }%
4610   \fi
4611 }
4612 \AtBeginShipoutFirst{%
4613   \Hy@FirstPageHook
4614 }
4615 \g@addto@macro\Hy@FirstPageHook{%
4616   \PDF@FinishDoc
4617   \gdef\PDF@FinishDoc{}}%
4618 }
```

27.1 PDF /PageLabels

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

```
4619 \ifHy@pagelabels
4620   \begingroup\expandafter\expandafter\expandafter\endgroup
4621   \expandafter\ifx\csname thepage\endcsname\relax
4622     \Hy@pagelabelsfalse
4623     \Hy@WarningNoLine{%
4624       Option 'pdfpagelabels' is turned off\MessageBreak
4625       because \string\thepage\space is undefined%
4626     }%
4627     \csname fi\endcsname
4628     \csname iffalse\expandafter\endcsname
4629   \fi
```

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

```
4630 \def\thispdfpagelabel#1{%
4631   \gdef\HyPL@thisLabel{#1}%
4632 }%
4633 \global\let\HyPL@thisLabel\relax
```

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

```
4634 \def\HyPL@Labels{}
```

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

```
4635 \newcount\Hy@abspage
4636 \Hy@abspage=0 %
```

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

```
4637 \def\HyPL@LastType{init}%
4638 \def\HyPL@LastNumber{0}%
4639 \def\HyPL@LastPrefix{}
```

Definitions for the PDF names of the \LaTeX pendants.

```
4640 \def\HyPL@arabic{D}%
4641 \def\HyPL@Roman{R}%
4642 \def\HyPL@roman{r}%
4643 \def\HyPL@Alph{A}%
4644 \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.

```
4645 \def\HyPL@EveryPage{%
4646   \begingroup
4647   \ifx\HyPL@thisLabel\relax
4648     \let\HyPL@page\thepage
4649   \else
4650     \let\HyPL@page\HyPL@thisLabel
4651     \global\let\HyPL@thisLabel\relax
4652   \fi
4653   \let\HyPL@Type\relax
4654   \ifnum\the\c@page>0 %
4655     \expandafter\HyPL@CheckThePage\HyPL@page\@nil
4656   \fi
4657   \let\Hy@temp Y%
4658   \ifx\HyPL@Type\HyPL@LastType
4659   \else
4660     \let\Hy@temp N%
4661   \fi
4662   \ifx\HyPL@Type\relax
4663     \pdfstringdef\HyPL@Prefix{\HyPL@page}%
4664   \else
4665     \pdfstringdef\HyPL@Prefix\HyPL@Prefix
4666   \fi
4667   \ifx\HyPL@Prefix\HyPL@LastPrefix
4668   \else
4669     \let\Hy@temp N%
4670   \fi
4671   \if Y\Hy@temp
4672     \advance\c@page by -1 %
4673     \ifnum\HyPL@LastNumber=\the\c@page\relax
4674     \else
4675       \let\Hy@temp N%
4676     \fi
4677     \Hy@StepCount\c@page
4678   \fi
4679   \if N\Hy@temp
4680     \ifx\HyPL@Type\relax
4681       \HyPL@StorePageLabel{/P(\HyPL@Prefix)}%
4682     \else
4683       \HyPL@StorePageLabel{%
4684         \ifx\HyPL@Prefix\@empty
4685         \else
4686           /P(\HyPL@Prefix)%
4687         \fi
```

```

4688         /S/\csname HyPL\HyPL@Type\endcsname
4689         \ifnum\the\c@page=1 %
4690         \else
4691         \space/St \the\c@page
4692         \fi
4693     }%
4694 \fi
4695 \fi
4696 \xdef\HyPL@LastNumber{\the\c@page}%
4697 \global\let\HyPL@LastType\HyPL@Type
4698 \global\let\HyPL@LastPrefix\HyPL@Prefix
4699 \endgroup
4700 \Hy@GlobalStepCount\Hy@abspage
4701 }%

```

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

```

4702 \def\HyPL@CheckThePage#1\@nil{%
4703     \HyPL@@CheckThePage{#1}\csname\endcsname\c@page\@nil
4704 }%

```

`\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`.

```

4705 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
4706     \def\Hy@tempa{#4}%
4707     \def\Hy@tempb{\csname\endcsname\c@page}%
4708     \ifx\Hy@tempa\Hy@tempb
4709         \expandafter\ifx\csname HyPL#3\endcsname\relax
4710         \else
4711             \def\HyPL@Type{#3}%
4712             \def\HyPL@Prefix{#2}%
4713         \fi
4714     \else
4715         \begingroup
4716             \let\Hy@next\endgroup
4717             \let\HyPL@found\@undefined
4718             \def\arabic{\HyPL@Format{arabic}}%
4719             \def\Roman{\HyPL@Format{Roman}}%
4720             \def\roman{\HyPL@Format{roman}}%
4721             \def\Alph{\HyPL@Format{Alph}}%
4722             \def\alph{\HyPL@Format{alph}}%
4723             \protected@edef\Hy@temp{#1}%
4724             \ifx\HyPL@found\relax
4725                 \toks@{\expandafter{\Hy@temp}}%
4726                 \edef\Hy@next{\endgroup
4727                     \noexpand\HyPL@@@CheckThePage\the\toks@
4728                     \noexpand\HyPL@found\relax\noexpand\@nil
4729                 }%
4730             \fi
4731             \Hy@next
4732         \fi
4733     }%

```

`\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`.

```

4734 \def\HyPL@Format#1#2{%
4735   \ifx\HyPL@found\@undefined
4736     \expandafter\ifx\csname c@#2\endcsname\c@page
4737       \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
4738     \else
4739       \expandafter\noexpand\csname#1\endcsname{#2}%
4740     \fi
4741   \else
4742     \expandafter\noexpand\csname#1\endcsname{#2}%
4743   \fi
4744 }%

```

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

```

4745 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
4746   \def\Hy@tempa{#3}%
4747   \def\Hy@tempb{\HyPL@found\relax}%
4748   \ifx\Hy@tempa\Hy@tempb
4749     \def\HyPL@Type{#2}%
4750     \def\HyPL@Prefix{#1}%
4751   \fi
4752 }%

```

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

```

4753 \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`.

```

4754 \def\HyPL@Useless{0<</S/D>>}%
4755 \@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.

```

4756 \def\HyPL@SetPageLabels{%
4757   \@onelevel@sanitize\HyPL@Labels
4758   \ifx\HyPL@Labels\@empty
4759     \else
4760       \ifx\HyPL@Labels\HyPL@Useless
4761       \else
4762         \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
4763       \fi
4764     \fi
4765 }%

```

```

4766 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
4767 \fi

```

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

```

4768 \Hy@DisableOption{pdfpagelabels}
4769 </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

```
4770 <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.

```
4771 <*vTeX>
4772 \providecommand*{\XR@ext}{pdf}
4773 \edef\Hy@VTeXversion{%
4774   \ifx\VTeXversion\@undefined
4775     \z@
4776   \else
4777     \ifx\VTeXversion\relax
4778       \z@
4779     \else
4780       \VTeXversion
4781     \fi
4782   \fi
4783 }
4784 \begingroup
4785   \ifnum\Hy@VTeXversion<660 %
4786     \gdef\Hy@PutCatalog#1{%
4787       \Hy@WarningNoLine{%
4788         VTeX 6.59g or above required for pdfpagelabels%
4789       }%
4790     }%
4791   \else
4792     \gdef\Hy@PutCatalog#1{%
4793       \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
4794     }%
4795     \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
4796       \ifx\#2\%
4797         \else
4798           \immediate\special{!pdfpagelabels #2}%
4799         \fi
4800       }%
4801     \fi
4802 \endgroup
4803 </vTeX>
4804 <*pdfTeX | vTeX>
```

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

```
4805 \ifHy@pagelabels
4806   \def\HyPL@StorePageLabel#1{%
4807     \toks@{\expandafter{\HyPL@Labels}}%
4808     \xdef\HyPL@Labels{%
4809       \the\toks@
4810       \the\Hy@abspage<<#1>>%
4811     }%
4812   }%
```

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.

```
4813 \@ifclassloaded{revtex4}{%
4814   \g@addto@macro\clear@document{\HyPL@SetPageLabels}%
}
```

```

4815 }{%
4816   \AtEndDocument{\clearpage\HyPL@SetPageLabels}%
4817 }%

4818 \fi
4819 </pdfTeX | vTeX>

```

27.1.2 pdfmarkbase, dvipdfm

```

4820 <*pdfmarkbase>
4821 \begingroup
4822   \toks@{\expandafter{\Hy@FirstPageHook}}%
4823   \xdef\Hy@FirstPageHook{%
4824     \noexpand\headerps@out{%
4825       systemdict /pdfmark known%
4826       {%
4827         userdict /?pdfmark systemdict /exec get put%
4828       }{%
4829         userdict /?pdfmark systemdict /pop get put %
4830         userdict /pdfmark systemdict /cleartomark get put%
4831       }%
4832       ifelse%
4833     }%
4834     \the\toks@
4835   }%
4836 \endgroup
4837 </pdfmarkbase>

\Hy@PutCatalog

4838 <dvipdfm>\def\Hy@PutCatalog#1{\@pdfmark{docview << #1 >>}}
4839 <*pdfmarkbase>
4840 \def\Hy@PutCatalog#1{%
4841   \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} << #1 >>}}%
4842 }
4843 </pdfmarkbase>

4844 <*pdfmarkbase | dvipdfm>
4845 \ifHy@pagelabels

```

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

```

4846 \def\HyPL@StorePageLabel#1{%
4847   \if@filesw
4848     \begingroup
4849     \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
4850     \immediate\write\@mainaux{%
4851       \string\HyPL@Entry{\Hy@tempa}%
4852     }%
4853   \endgroup
4854 \fi
4855 }%

```

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.

```

4856 \AfterBeginDocument{%
4857   \if@filesw
4858     \immediate\write\@mainaux{%
4859       \string\providecommand\string*\string\HyPL@Entry[1]{}%
4860     }%

```

```

4861 \fi
4862 \ifx\HyPL@Labels\@empty
4863 \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
4864 \else
4865 \HyPL@SetPageLabels
4866 \fi
4867 \let\HyPL@Entry\@gobble
4868 }%

\HyPL@Entry

4869 \def\HyPL@Entry#1{%
4870 \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
4871 \HyPL@Labels
4872 #1%
4873 }%
4874 }%

4875 \fi
4876 </pdfmarkbase | dvipdfm>
4877 <*package>
4878 \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

```

4879 \def\Hy@CounterExists#1{%
4880 \begingroup\expandafter\expandafter\expandafter\endgroup
4881 \expandafter\ifx\csname c@#1\endcsname\relax
4882 \expandafter\@gobble
4883 \else
4884 \begingroup\expandafter\expandafter\expandafter\endgroup
4885 \expandafter\ifx\csname the#1\endcsname\relax
4886 \expandafter\expandafter\expandafter\@gobble
4887 \else
4888 \expandafter\expandafter\expandafter\@firstofone
4889 \fi
4890 \fi
4891 }
4892 \Hy@CounterExists{section}{%

```

```

4893 \newcommand\theHequation{\theHsection.\arabic{equation}}%
4894 }
4895 \Hy@CounterExists{part}{%
4896 \newcommand\theHpart{\arabic{part}}%
4897 }
4898 \@ifundefined{thechapter}{%
4899 \newcommand\theHsection {\arabic{section}}%
4900 \newcommand\theHfigure {\arabic{figure}}%
4901 \newcommand\theHtable {\arabic{table}}%
4902 }{%
4903 \newcommand\theHchapter {\arabic{chapter}}%
4904 \newcommand\theHfigure {\theHchapter.\arabic{figure}}%
4905 \newcommand\theHtable {\theHchapter.\arabic{table}}%
4906 \newcommand\theHsection {\theHchapter.\arabic{section}}%
4907 }
4908 \newcommand\theHsubsection {\theHsection.\arabic{subsection}}
4909 \newcommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
4910 \newcommand\theHparagraph {\theHsubsubsection.\arabic{paragraph}}
4911 \newcommand\theHsubparagraph {\theHparagraph.\arabic{subparagraph}}
4912 \newcommand\theHtheorem {\theHsection.\arabic{theorem}}
4913 \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.

```

4914 \let\H@item\item
4915 \newcounter{Item}
4916 \def\theHItem{\arabic{Item}}
4917 \def\item{%
4918 \@hyper@itemfalse
4919 \if@nmbrlist\@hyper@itemtrue\fi
4920 \H@item
4921 }
4922 \newcommand\theHenumi {\theHItem}
4923 \newcommand\theHenumii {\theHItem}
4924 \newcommand\theHenumiii {\theHItem}
4925 \newcommand\theHenumiv {\theHItem}
4926 \newcommand\theHHfootnote {\arabic{Hfootnote}}
4927 \newcommand\theHmpfootnote{\arabic{mpfootnote}}
4928 \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.

```

4929 \let\H@refstepcounter\refstepcounter
4930 \edef\name@of@eq{equation}%
4931 \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.

```

4932 \newif\if@hyper@item
4933 \newif\if@skiphyperref
4934 \@hyper@itemfalse
4935 \@skiphyperreffalse
4936 \def\refstepcounter#1{%
4937 \ifHy@pdfstring
4938 \else

```



```

4939 \H@refstepcounter{#1}%
4940 \edef\This@name{#1}%
4941 \ifx\This@name\name@of@slide
4942 \else
4943 \if@skiphyperref
4944 \else
4945 \if@hyper@item
4946 \stepcounter{Item}%
4947 \hyper@refstepcounter{Item}%
4948 \@hyper@itemfalse
4949 \else
4950 \hyper@refstepcounter{#1}%
4951 \fi
4952 \fi
4953 \fi
4954 \fi
4955 }

```

AMS^LTEX 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.

```

4956 \@ifpackageloaded{amsmath}{\newif\ifmeasuring@\measuring@false}

```

`\hyper@refstepcounter`

```

4957 \def\hyper@refstepcounter#1{%
4958 \edef\This@name{#1}%
4959 \ifx\This@name\name@of@eq
4960 \ifundefined{theHequation}{%
4961 \make@stripped@name{\theequation}%
4962 \let\theHequation\newname
4963 }{}%
4964 \fi
4965 \ifundefined{theH#1}{%
4966 \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
4967 }{}%
4968 \hyper@makecurrent{#1}%
4969 \ifmeasuring@
4970 \else
4971 \Hy@raisedlink{%
4972 \hyper@anchorstart{\@currentHref}\hyper@anchorend
4973 }%
4974 \fi
4975 }

```

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`.

```

4976 \begingroup\expandafter\expandafter\expandafter\endgroup
4977 \expandafter\ifx\csname chapter\endcsname\relax
4978 \def\Hy@chapterstring{section}%
4979 \else
4980 \def\Hy@chapterstring{chapter}%
4981 \fi
4982 \def\Hy@appendixstring{appendix}

```

```

4983 \def\Hy@chapapp{\Hy@chapterstring}
4984 \let\HyOrg@appendix\appendix
4985 \def\appendix{%
4986   \@ifundefined{chapter}%
4987     {\gdef\theHsection{\Alph{section}}}%
4988     {\gdef\theHchapter{\Alph{chapter}}}%
4989   \xdef\Hy@chapapp{\Hy@appendixstring}%
4990   \HyOrg@appendix
4991 }

```

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

```

4992 \def\hyper@makecurrent#1{%
4993   \begingroup
4994     \edef\Hy@param{#1}%
4995     \ifx\Hy@param\Hy@chapterstring
4996       \let\Hy@param\Hy@chapapp
4997     \fi
4998     \ifHy@hypertextnames
4999       \let\@number\@firstofone
5000       \@ifundefined{latin@Alph}{-}{%
5001         \ifx\@Alph\greek@Alph
5002           \def\@Alph{Alph\@arabic}%
5003         \fi
5004       }%
5005       \ifx\@Alph\@Alph@bul
5006         \def\@Alph{Alph\@arabic}%
5007       \fi
5008       \ifx\@alph\@alph@bul
5009         \def\@alph{alph\@arabic}%
5010       \fi
5011       \ifHy@naturalnames
5012         \let\textlatin\@firstofone
5013         \xdef\@currentHlabel{\csname the#1\endcsname}%
5014       \else
5015         \xdef\@currentHlabel{\csname theH#1\endcsname}%
5016       \fi
5017       \xdef\@currentHref{%
5018         \Hy@param.\expandafter\strip@prefix\meaning\@currentHlabel
5019       }%
5020     \else
5021       \Hy@GlobalStepCount\Hy@linkcounter
5022       \xdef\@currentHref{\Hy@param.\the\Hy@linkcounter}%
5023     \fi
5024   \endgroup
5025 }

5026 \@ifpackageloaded{fancyvrb}{%
5027   \def\FV@StepLineNo{%
5028     \FV@SetLineNo
5029     \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
5030     \FV@StepLineNo
5031   }%
5032 }{}

```

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 hypertexnames 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`

```

5033 \AtBeginDocument{%
5034   \@ifclassloaded{revtex4}{%
5035     \namedef{ver@lastpage.sty}{1994/06/25}%
5036   }{}%
5037   \@ifpackageloaded{lastpage}{%
5038     \ifHy@pageanchor
5039     \else
5040       \Hy@WarningNoLine{%
5041         The \string\pageref{LastPage} link doesn't work\MessageBreak
5042         with disabled option 'pageanchor'%
5043       }%
5044     \fi
5045     \def\lastpage@putlabel{%
5046       \addtocounter{page}{-1}%
5047       \if@filesw
5048         \begingroup
5049         \let\@number\@firstofone
5050         \ifHy@pageanchor
5051           \ifHy@hypertexnames
5052             \ifHy@plainpages
5053               \def\Hy@temp{\arabic{page}}%
5054             \else
5055               \Hy@unicodedefalse
5056               \pdfstringdef\Hy@temp{\thepage}%
5057             \fi
5058           \else
5059             \def\Hy@temp{\the\Hy@pagecounter}%
5060           \fi
5061         \fi
5062         \immediate\write\@auxout{%
5063           \string\newlabel
5064           {LastPage}{\the\thepage}{\the\thepage}{\the\thepage}{\the\thepage}{\the\thepage}%
5065           \ifHy@pageanchor page.\Hy@temp\fi}{\the\thepage}%
5066         }%
5067       \endgroup
5068     \fi
5069     \addtocounter{page}{1}%
5070   }%
5071   \@ifclassloaded{revtex4}{%
5072     \begingroup
5073     \toks@\expandafter{\lastpage@putlabel}%
5074     \edef\x{\endgroup
5075       \def\noexpand\lastpage@putlabel{%
5076         \noexpand\stepcounter{page}%
5077         \the\toks@
5078         \noexpand\addtocounter{page}\noexpand\m@ne
5079       }%

```

```

5080         }%
5081         \x
5082     }{}%
5083 }{}%
5084 }
5085 </package>
5086 <*check>
5087 \checkpackage{lastpage}[1994/06/25]
5088 \checkcommand\def\lastpage@putlabel{%
5089     \addtocounter{page}{-1}%
5090     \immediate\write\@auxout{%
5091         \string\newlabel{LastPage}{{}{\thepage}}%
5092     }%
5093     \addtocounter{page}{1}%
5094 }
5095 </check>
5096 <*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.

```

5097 \def\hypergetref#1{\getrefbykeydefault{#1}{}{??}}
5098 \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:

```

5099 \@ifpackageloaded{titlesec}{%
5100     \def\ttl@Hy@steplink#1{%
5101         \Hy@GlobalStepCount\Hy@linkcounter
5102         \xdef\@currentHref{#1*.\the\Hy@linkcounter}%
5103         \def\ttl@Hy@saveanchor{%
5104             \Hy@raisedlink{%
5105                 \hyper@anchorstart{\@currentHref}\hyper@anchorend
5106             }%
5107         }%
5108     }%
5109     \def\ttl@Hy@refstepcounter#1{%
5110         \let\ttl@b\Hy@raisedlink
5111         \def\Hy@raisedlink##1{%
5112             \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
5113         }%
5114         \refstepcounter{#1}%
5115         \let\Hy@raisedlink\ttl@b
5116     }%
5117 }{}

```

Package titletoc support:

```

5118 \@ifpackageloaded{titletoc}{%
5119     \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
5120 }{}

```

32 Package varioref support

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

```
5121 \def\Hy@varioref@undefined{{??}{??}{}}{}{}
5122 \@ifpackageloaded{varioref}{%
5123   \def\vref@pagenum#1#2{%
5124     \ifundefined{r@#2}{%
5125       \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
5126     }{}%
5127     \edef#1{\getpagerefnumber{#2}}%
5128   }%
5129 }{}
```

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

```
5130 \@ifpackageloaded{longtable}{%
5131   \begingroup
5132     \def\y{\LT@array}%
5133     \ifundefined{scr@LT@array}{}{\def\y{\scr@LT@array}}%
5134     \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
5135       \expandafter\endgroup
5136       \expandafter\def\y[#1]##2{%
5137         \H@refstepcounter{#1}%
5138         \hyper@makecurrent{table}%
5139         \let\Hy@LT@currentHlabel\@currentHlabel
5140         \let\Hy@LT@currentHref\@currentHref
5141         #2\@sharp####4%
5142       }%
5143     }%
5144     \expandafter\expandafter\expandafter\x\y[{#1}]{#2}\@nil
```

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

```
5145   \begingroup
5146     \def\x#1\ifvoid\LT@firsthead\copy#2\@nil{%
5147     \endgroup
5148     \def\LT@start{%
5149       #1%
5150       \let\@currentHlabel\Hy@LT@currentHlabel
5151       \let\@currentHref\Hy@LT@currentHref
5152       \Hy@raisedlink{%
5153         \hyper@anchorstart{\@currentHref}\hyper@anchorend
5154       }%
5155       \ifvoid\LT@firsthead\copy
5156       #2%
5157     }%
5158   }%
5159   \expandafter\x\LT@start\@nil
5160 }{}
```

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.

```

5161 \let\new@refstepcounter\refstepcounter
5162 \let\H@equation\equation
5163 \let\H@endequation\endequation

5164 \@ifpackageloaded{amsmath}{%
5165   \long\def\Hy@temp{%
5166     \incr@eqnum
5167     \mathdisplay@push
5168     \st@rredfalse \global\@eqnswtrue
5169     \mathdisplay{equation}%
5170   }%
5171   \ifx\Hy@temp\equation
5172     \expandafter\ifx\csname if@fleqn\expandafter\endcsname
5173       \csname iftrue\endcsname
5174   \else
5175     \long\def\equation{%
5176       \mathdisplay@push
5177       \st@rredfalse \global\@eqnswtrue
5178       \mathdisplay{equation}%
5179       \incr@eqnum
5180     }%
5181   \fi
5182 \fi
5183 }{%
5184 \def\equation{%
5185   \let\refstepcounter\H@refstepcounter
5186   \H@equation
5187   \@ifundefined{theHequation}{%
5188     \make@stripped@name{\theequation}%
5189     \let\theHequation\newname
5190   }{}%
5191   \hyper@makecurrent{equation}%
5192   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}%
5193   \let\refstepcounter\new@refstepcounter
5194 }%
5195 \def\endequation{\Hy@raisedlink{\hyper@anchorend}\H@endequation}%
5196 }

```

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.

```

5197 \newif\if@eqnstar
5198 \@eqnstarfalse
5199 \let\H@eqnarray\eqnarray
5200 \let\H@endeqnarray\endeqnarray
5201 \def\eqnarray{%
5202   \let\Hy@reserved@a\relax
5203   \def\@currentHref{}%

```

```

5204 \H@eqnarray
5205 \if@eqnstar
5206 \else
5207   \ifx\\ \@currentHref\\%
5208   \else
5209     \ifundefined{theHequation}{%
5210       \make@stripped@name{\theequation}%
5211       \let\theHequation\newname
5212     }{}%
5213     \hyper@makecurrent{equation}%
5214     \hyper@anchorstart{\@currentHref}{\hyper@anchorend
5215   \fi
5216 \fi
5217 }
5218 \def\endeqnarray{%
5219 \H@endeqnarray
5220 }

```

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.

```

5221 \@namedef{eqnarray*}{%
5222   \def\@eqncr{\nonumber\@seqncr}\@eqnstartrue\eqnarray
5223 }
5224 \@namedef{endeqnarray*}{%
5225   \nonumber\endeqnarray\@eqnstarfalse
5226 }

```

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

```

5227 \ifundefined{subeqnarray}{%
5228   \let\H@subeqnarray\subeqnarray
5229   \let\H@endsubeqnarray\endsubeqnarray
5230   \def\subeqnarray{%
5231     \let\Hy@reserved@a\relax
5232     \H@subeqnarray
5233     \ifundefined{theHequation}{%
5234       \make@stripped@name{\theequation}%
5235       \let\theHequation\newname
5236     }{}%
5237     \hyper@makecurrent{equation}%
5238     \hyper@anchorstart{\@currentHref}{\hyper@anchorend
5239   }%
5240   \def\endsubeqnarray{%
5241     \H@endsubeqnarray
5242   }%
5243   \newcommand\theHsubequation{\theHequation\alph{subequation}}%
5244 }

```

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

```

5245 \def\make@stripped@name#1{%
5246   \begingroup
5247   \escapechar\m@ne
5248   \global\let\newname\@empty
5249   \protected@edef\Hy@tempa{#1}%
5250   \edef\@tempb{%
5251     \noexpand\@tfor\noexpand\Hy@tempa:=%
5252     \expandafter\strip@prefix\meaning\Hy@tempa
5253   }%
5254   \@tempb\do{%

```

```

5255     \if{\Hy@tempa\else
5256     \if}\Hy@tempa\else
5257     \xdef\newname{\newname\Hy@tempa}%
5258     \fi
5259     \fi
5260   }%
5261 \endgroup
5262 }

Support for amsmath's subequations:
5263 \begingroup\expandafter\expandafter\expandafter\endgroup
5264 \expandafter\ifx\csname subequations\endcsname\relax
5265 \else
5266   \let\HyOrg@subequations\subequations
5267   \def\subequations{%
5268     \stepcounter{equation}%
5269     \protected@edef\theHparentequation{%
5270       \ifundefined{theHequation}\theequation\theHequation
5271     }%
5272     \addtocounter{equation}{-1}%
5273     \HyOrg@subequations
5274     \def\theHequation{\theHparentequation\alph{equation}}%
5275     \ignorespaces
5276   }%
5277 \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.

```

5278 \ifpackageloaded{tabularx}{\Hy@hyperfootnotesfalse}{}
5279 \ifHy@hyperfootnotes
5280   \newcounter{Hfootnote}%
5281   \let\H@@footnotetext\@footnotetext
5282   \let\H@@footnotemark\@footnotemark
5283   \def\@xfootnotenext[#1]{%
5284     \begingroup
5285       \csname c@\@mpfn\endcsname #1\relax
5286       \unrestored@protected@xdef\@thefnmark{\thempfn}%
5287     \endgroup
5288     \ifx\@footnotetext\@mpfootnotetext
5289       \expandafter\H@@mpfootnotetext
5290     \else
5291       \expandafter\H@@footnotetext
5292     \fi
5293   }%
5294   \def\@xfootnotemark[#1]{%
5295     \begingroup
5296       \c@footnote #1\relax
5297       \unrestored@protected@xdef\@thefnmark{\thefnmark}%
5298     \endgroup
5299     \H@@footnotemark
5300   }%

```



```

5301 \let\H@@mpfootnotetext\@mpfootnotetext
5302 \long\def\@mpfootnotetext#1{%
5303   \H@@mpfootnotetext{%
5304     \ifHy@nesting
5305       \hyper@@anchor{\Hy@footnote@currentHref}{#1}%
5306     \else
5307       \Hy@raisedlink{%
5308         \hyper@@anchor{\Hy@footnote@currentHref}{\relax}%
5309       }#1%
5310     \fi
5311   }%
5312 }%
5313 \long\def\@footnotetext#1{%
5314   \H@@footnotetext{%
5315     \ifHy@nesting
5316       \hyper@@anchor{\Hy@footnote@currentHref}{#1}%
5317     \else
5318       \Hy@raisedlink{%
5319         \hyper@@anchor{\Hy@footnote@currentHref}{\relax}%
5320       }%
5321       \let\@currentHlabel\Hy@footnote@currentHlabel
5322       \let\@currentHref\Hy@footnote@currentHref
5323       \let\@currentlabelname\@empty
5324       #1%
5325     \fi
5326   }%
5327 }%

```

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.

```

5328 \def\@footnotemark{%
5329   \leavevmode
5330   \ifhmode\edef\x@sf{\the\spacefactor}\nobreak\fi
5331   \stepcounter{Hfootnote}%
5332   \global\let\Hy@saved@currentHlabel\@currentHlabel
5333   \global\let\Hy@saved@currentHref\@currentHref
5334   \hyper@makecurrent{Hfootnote}%
5335   \global\let\Hy@footnote@currentHlabel\@currentHlabel
5336   \global\let\Hy@footnote@currentHref\@currentHref
5337   \global\let\@currentHlabel\Hy@saved@currentHlabel
5338   \global\let\@currentHref\Hy@saved@currentHref
5339   \hyper@linkstart{link}{\Hy@footnote@currentHref}%
5340   \@makefnmark
5341   \hyper@linkend
5342   \ifhmode\spacefactor\x@sf\fi
5343   \relax
5344 }%

```

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

```

5345 \@ifpackageloaded{longtable}{%
5346   \CheckCommand*\LT@p@ftntext}[1]{%
5347     \edef\@tempa{%
5348       \the\LT@p@ftn

```

```

5349     \noexpand\footnotetext[\the\c@footnote]%
5350 }%
5351 \global\LT@p@ftn\expandafter{\@tempa{#1}}%
5352 }%
5353 \long\def\LT@p@ftntext#1{%
5354   \edef\@tempa{%
5355     \the\LT@p@ftn
5356     \begingroup
5357       \noexpand\c@footnote=\the\c@footnote\relax
5358       \noexpand\protected@xdef
5359         \noexpand\@thefnmark{\noexpand\thempfn}%
5360       \noexpand\protected@xdef\noexpand\@thefnmark{%
5361         \noexpand\thempfn
5362       }%
5363       \expandafter\expandafter\expandafter\noexpand
5364       \expandafter\expandafter\expandafter\Hy@LT@footnotetext
5365       \expandafter\expandafter\expandafter{%
5366         \expandafter\Hy@footnote@currentHref\expandafter
5367         }\expandafter{\Hy@footnote@currentHlabel}%
5368     }%
5369     \global\LT@p@ftn\expandafter{%
5370       \@tempa{#1}%
5371     }\endgroup
5372   }%
5373 }%
5374 \long\def\Hy@LT@footnotetext#1#2#3{%
5375   \H@@footnotetext{%
5376     \ifHy@nesting
5377       \hyper@@anchor{#1}{#3}%
5378     \else
5379       \Hy@raisedlink{%
5380         \hyper@@anchor{#1}{\relax}%
5381       }%
5382       \def\@currentHlabel{#2}%
5383       \def\@currentHref{#1}%
5384       \let\@currentlabelname\@empty
5385       #3%
5386     \fi
5387   }%
5388 }%
5389 }-}%

```

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

```

5390 \ifpackageloaded{fancyvrb}{%
5391   \def\V@@footnotetext{%
5392     \insert\footins\bgroup
5393     \csname reset@font\endcsname
5394     \footnotesize
5395     \interlinepenalty\interfootnotelinepenalty
5396     \splittopskip\footnotesep
5397     \splitmaxdepth\dp\strutbox
5398     \floatingpenalty \@MM
5399     \hsize\columnwidth
5400     \@parboxrestore
5401     \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
5402     \makefntext{}%
5403     \rule{\z@}{\footnotesep}%
5404     \bgroup

```

```

5405 \aftergroup\V@@@footnotetext
5406 \Hy@raisedlink{%
5407   \hyper@@anchor{\Hy@footnote@currentHref}{\relax}%
5408 }%
5409 \let\@currentHlabel\Hy@footnote@currentHlabel
5410 \let\@currentHref\Hy@footnote@currentHref
5411 \let\@currentlabelname\@empty
5412 \ignorespaces
5413 }%
5414 }{}%

```

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.

```

5415 \let\HyOrg@maketitle\maketitle
5416 \def\maketitle{%
5417   \let\Hy@saved@footnotemark\@footnotemark
5418   \let\Hy@saved@footnotetext\@footnotetext
5419   \let\@footnotemark\H@@footnotemark
5420   \let\@footnotetext\H@@footnotetext
5421   \@ifnextchar[\Hy@maketitle@optarg{% ]
5422     \HyOrg@maketitle
5423     \Hy@maketitle@end
5424   }%
5425 }%
5426 \def\Hy@maketitle@optarg[#1]{%
5427   \HyOrg@maketitle[#{#1}]%
5428   \Hy@maketitle@end
5429 }%
5430 \def\Hy@maketitle@end{%
5431   \ifx\@footnotemark\H@@footnotemark
5432     \let\@footnotemark\Hy@saved@footnotemark
5433   \fi
5434   \ifx\@footnotetext\H@@footnotetext
5435     \let\@footnotetext\Hy@saved@footnotetext
5436   \fi
5437 }%

```

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

```

5438 \def\realfootnote{%
5439   \@ifnextchar[\@xfootnote{%
5440     \stepcounter{\@mpfn}%
5441     \protected@xdef\@thefnmark{\thempfn}%
5442     \H@@footnotemark\H@@footnotetext
5443   }%
5444 }%
5445 \fi
5446 \Hy@DisableOption{hyperfootnotes}
5447 </package>
5448 <*check>
5449 \checklatex
5450 \checkcommand\def\@xfootnotenext[#1]{%
5451   \begingroup
5452     \csname c@\@mpfn\endcsname #1\relax
5453     \unrestored@protected@xdef\@thefnmark{\thempfn}%
5454   \endgroup
5455   \@footnotetext

```

```

5456 }
5457 \checkcommand\def\xfootnotemark[#1]{%
5458   \begingroup
5459     \c@footnote #1\relax
5460     \unrestored@protected@xdef\thefnmark{\thefootnote}%
5461   \endgroup
5462   \@footnotemark
5463 }
5464 \checkcommand\def\@footnotemark{%
5465   \leavevmode
5466   \ifhmode\edef\x@sf{\the\spacefactor}\nobreak\fi
5467   \makefnmark
5468   \ifhmode\spacefactor\x@sf\fi
5469   \relax
5470 }
5471 \</check>
5472 \<*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.

```

5473 \def\caption{%
5474   \ifx\@captype\@undefined
5475     \latex@error{\noexpand\caption outside float}\@ehd
5476     \expandafter\@gobble
5477   \else
5478     \H@refstepcounter\@captype
5479     \let\Hy@tempa\@caption
5480     \@ifundefined{float@caption}{%
5481       }{%
5482         \expandafter\ifx\csname @float@c@\@captype\endcsname
5483           \float@caption
5484           \let\Hy@tempa\Hy@float@caption
5485         \fi
5486       }%
5487     \expandafter\@firstofone
5488     \fi
5489     {\@dblarg{\Hy@tempa\@captype}}}%
5490 }
5491 \long\def\@caption#1[#2]#3{%
5492   \expandafter\ifx\csname if@capstart\expandafter\endcsname
5493     \csname iftrue\endcsname
5494     \global\let\@currentHref\hc@currentHref
5495   \else
5496     \hyper@makecurrent{\@captype}%
5497   \fi
5498   \def\@currentlabelname{#2}%
5499   \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
5500     \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
5501   }%
5502   \begingroup
5503     \@parboxrestore
5504     \if@minipage
5505       \setminipage
5506     \fi

```

```

5507 \normalsize
5508 \expandafter\ifx\csname if@capstart\expandafter\endcsname
5509 \csname iftrue\endcsname
5510 \global\@capstartfalse
5511 \makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
5512 \else
5513 \makecaption{\csname fnum@#1\endcsname}{%
5514 \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

5515 \ifHy@nesting
5516 \hyper@@anchor{\@currentHref}{#3}%
5517 \else
5518 \Hy@raisedlink{\hyper@@anchor{\@currentHref}{\relax}}#3%
5519 \fi
5520 }%
5521 \fi
5522 \par
5523 \endgroup
5524 }

```

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.

```

5525 \let\Hy@float@caption\@caption
5526 \ifpackageloaded{float}{%
5527 \def\Hy@float@caption{%
5528 \ifx\Hy@float@currentHref\@undefined
5529 \hyper@makecurrent{\@cuptype}%
5530 \global\let\Hy@float@currentHref\@currentHref
5531 \else
5532 \let\@currentHref\Hy@float@currentHref
5533 \fi
5534 \float@caption
5535 }%
5536 \let\HyOrg@float@makebox\float@makebox
5537 \renewcommand{\float@makebox}[1]{%
5538 \HyOrg@float@makebox{%
5539 #1\relax
5540 \ifx\Hy@float@currentHref\@undefined
5541 \else
5542 \hyper@@anchor{\Hy@float@currentHref}{\relax}%
5543 \global\let\Hy@float@currentHref\@undefined
5544 \fi
5545 }%
5546 }%
5547 }{}
5548 \</package>
5549 \<*check>
5550 \checklatex[1999/06/01 - 2000/06/01]
5551 \checkcommand\def\caption{%
5552 \ifx\@cuptype\@undefined
5553 \@latex@error{noexpand\caption outside float}\@ehd
5554 \expandafter\@gobble
5555 \else
5556 \refstepcounter\@cuptype
5557 \expandafter\@firstofone
5558 \fi
5559 {\@dblarg{\@caption\@cuptype}}%

```

```

5560 }
5561 \checkcommand\long\def\@caption#1[#2]#3{%
5562   \par
5563   \addcontentsline{\csname ext@#1\endcsname}{#1}%
5564     {\protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}}%
5565   \begingroup
5566     \@parboxrestore
5567     \if@minipage
5568       \setminipage
5569     \fi
5570     \normalsize
5571     \makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
5572   \endgroup
5573 }
5574 </check>
5575 <*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.

```

5576 \def\hyper@natlinkstart#1{%
5577   \Hy@backout{#1}%
5578   \hyper@linkstart{cite}{cite.#1}%
5579   \def\hyper@nat@current{#1}%
5580 }
5581 \def\hyper@natlinkend{%
5582   \hyper@linkend
5583 }
5584 \def\hyper@natlinkbreak#1#2{%
5585   \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
5586 }
5587 \def\hyper@natanchorstart#1{%
5588   \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
5589 }
5590 \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.

```

5591 \ifundefined{NAT@parse}{%
5592   \providecommand*\@extra@binfo{}%
5593   \providecommand*\@extra@b@citeb{}%
5594   \def\bibcite#1#2{%
5595     \@newl@bel{b}{#1\@extra@binfo}{%
5596       \hyper@link{cite}{cite.#1\@extra@b@citeb}{#2}%
5597     }%
5598   }%
5599   \gdef\@extra@binfo{}%

```

Package babel redefines \bibtex with macro \bbl@cite@choice. It needs to be overwritten to avoid the warning “Label(s) may have changed.”.

```

5600 \let\Hy@bibtex\bibtex
5601 \begingroup
5602   \ifundefined{bbl@cite@choice}{\%
5603     \g@addto@macro\bbl@cite@choice{\%
5604       \let\bibtex\Hy@bibtex
5605     }%
5606   }%
5607 \endgroup

```

\@BIBLABEL is working around a ‘feature’ of RevTeX.

```

5608 \providecommand*\@BIBLABEL{\@biblabel}%
5609 \def\@bibitem[#1]#2{%
5610   \@skiphyperreftrue
5611   \H@item[%
5612     \ifx\Hy@raisedlink\@empty
5613       \hyper@anchorstart{cite.#2\@extra@b@citeb}%
5614       \@BIBLABEL{#1}%
5615       \hyper@anchorend
5616     \else
5617       \Hy@raisedlink{%
5618         \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
5619       }%
5620       \@BIBLABEL{#1}%
5621     \fi
5622     \hfill
5623   ]%
5624   \@skiphyperreffalse
5625   \if@filesw
5626     \begingroup
5627       \let\protect\noexpand
5628       \immediate\write\@auxout{%
5629         \string\bibtex{#2}{#1}%
5630       }%
5631     \endgroup
5632   \fi
5633   \ignorespaces
5634 }%

```

Since \bibitem is doing its own labelling, call the raw version of \item, to avoid extra spurious labels

```

5635 \def\@bibitem#1{%
5636   \@skiphyperreftrue\H@item\@skiphyperreffalse
5637   \Hy@raisedlink{%
5638     \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
5639   }%
5640   \if@filesw
5641     \begingroup
5642       \let\protect\noexpand
5643       \immediate\write\@auxout{%
5644         \string\bibtex{#1}{\the\value{\@listctr}}%
5645       }%
5646     \endgroup
5647   \fi
5648   \ignorespaces
5649 }%
5650 }{}

```

```

5651 </package>
5652 <*check>
5653 \checklatex
5654 \checkcommand\def\@lbibitem[#1]#2{%
5655   \item[\@biblabel{#1}\hfill]%
5656   \if@filesw
5657     {%
5658       \let\protect\noexpand
5659       \immediate\write\@auxout{%
5660         \string\bibcite{#2}{#1}%
5661       }%
5662     }%
5663   \fi
5664   \ignorespaces
5665 }
5666 \checkcommand\def\@bibitem#1{%
5667   \item
5668   \if@filesw
5669     \immediate\write\@auxout{%
5670       \string\bibcite{#1}{\the\value{\@listctr}}%
5671     }%
5672   \fi
5673   \ignorespaces
5674 }
5675 </check>
5676 <*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.

```

5677 \@ifclassloaded{revtex}{%
5678   \Hy@Info{*** compatibility with revtex **** }%
5679   \def\revtex@checking#1#2{%
5680     \expandafter\let\expandafter\T@temp\csname b@#1\endcsname
5681     \expandafter\def\csname b@#1\endcsname{#2}%
5682     \@SetMaxRnhefLabel{#1}%
5683     \expandafter\let\csname b@#1\endcsname\T@temp
5684   }%

```

Tanmoy provided this replacement for CITE_X. Lord knows what it does. For chapterbib added: `extra@b@citeb`

```

5685 \ifundefined{CITE}{\def\CITE{\@cite}}{}%
5686 \providecommand*{\@extra@b@citeb}{}%
5687 \def\CITE[#1]#2{%
5688   \let\@citea\empty
5689   \leavevmode
5690   \unskip
5691   $^{}%
5692   \scriptstyle
5693   \CITE{%
5694     \@for\@citeb:=#2\do{%
5695       \@citea
5696       \def\@citea{\penalty\@m }%
5697       \edef\@citeb{\expandafter\@firstofone\@citeb}%
5698       \if@filesw
5699         \immediate\write\@auxout{\string\citation{\@citeb}}%
5700       \fi
5701       \@ifundefined{b@\@citeb\extra@b@citeb}{}%

```



```

5702         \mbox{\reset@font\bfseries ?}%
5703         \G@refundefinedtrue
5704         \@latex@warning{%
5705             Citation ‘\@citeb’ on page \thepage \space undefined%
5706         }%
5707     }{%
5708         {\csname b@\@citeb\@extra@b@citeb\endcsname}%
5709     }%
5710 }%
5711 }{#1}%
5712 }$%
5713 }%

```

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.

```

5714 \def\@citex[#1]#2{%
5715     \let\@citea\@empty
5716     \@cite{%
5717         \@for\@citeb:=#2\do{%
5718             \@citea
5719             \def\@citea{\penalty\@m\ }%
5720             \edef\@citeb{\expandafter\@firstofone\@citeb}%
5721             \if@filesw
5722                 \immediate\write\@auxout{\string\citation{\@citeb}}%
5723             \fi
5724             \@ifundefined{b@\@citeb\@extra@b@citeb}{%
5725                 \mbox{\reset@font\bfseries ?}%
5726                 \G@refundefinedtrue
5727                 \@latex@warning{%
5728                     Citation ‘\@citeb’ on page \thepage \space undefined%
5729                 }%
5730             }{%
5731                 \hbox{\csname b@\@citeb\@extra@b@citeb\endcsname}%
5732             }%
5733         }%
5734     }{#1}%
5735 }%
5736 }{}

```

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.

```

5737 \@ifpackageloaded{harvard}{%
5738     \AtBeginDocument{%
5739         \Hy@Info{*** compatibility with harvard ***}%
5740         \Hy@raiselinksfalse
5741         \def\harvardcite#1#2#3#4{%
5742             \global\@namedef{HAR@fn@#1}{\hyper@link[cite]{\cite.#1}{#2}}%
5743             \global\@namedef{HAR@an@#1}{\hyper@link[cite]{\cite.#1}{#3}}%
5744             \global\@namedef{HAR@yr@#1}{\hyper@link[cite]{\cite.#1}{#4}}%
5745             \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
5746         }%

```

```

5747 \def\HAR@citetoaux#1{%
5748 \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
5749 \ifHy@backref
5750 \ifx\@empty\@currentlabel
5751 \else
5752 \@bsphack
5753 \if@filesw
5754 \protected@write\@auxout{}\fi%
5755 \string\@writefile{brf}{%
5756 \string\backcite{#1}{%
5757 {\thepage}{\@currentlabel}{\@currentHref}%
5758 }%
5759 }%
5760 }%
5761 \fi
5762 \@esphack
5763 \fi
5764 \fi
5765 }%
5766 \def\harvarditem{%
5767 \@ifnextchar[{\@harvarditem}{\@harvarditem[\null]}%
5768 }%
5769 \def\@harvarditem[#1]#2#3#4#5\par{%
5770 \item[]%
5771 \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
5772 \if@filesw
5773 \begingroup
5774 \def\protect##1{\string ##1\space}%
5775 \ifthenelse{\equal{#1}{\null}}%
5776 {\def\next{{#4}{#2}{#2}{#3}}}%
5777 {\def\next{{#4}{#2}{#1}{#3}}}%
5778 \immediate\write\@auxout{\string\harvardcite\codeof\next}%
5779 \endgroup
5780 \fi
5781 \protect\hspace*{-\labelwidth}%
5782 \protect\hspace*{-\labelsep}%
5783 \ignorespaces
5784 #5%
5785 \ifHy@backref
5786 \newblock
5787 \backref{\csname br@#4\endcsname}%
5788 \fi
5789 \par
5790 }%

```

\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:

```

5791 \long\def\HAR@checkcitations#1#2#3#4{%
5792 \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#2}}%
5793 \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
5794 \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#3}}%
5795 \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
5796 \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#4}}%
5797 \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
5798 \else
5799 \@tempswatrue

```

```

5800         \fi
5801         \else
5802         \@tempswatrue
5803         \fi
5804     \else
5805         \@tempswatrue
5806     \fi
5807 }%
5808 }%

5809 }{}

```

37.2 Package chicago

The links by `\citeN` and `\shortciteN` should include the closing parentheses.

```

5810 \@ifpackageloaded{chicago}{%

```

`\citeN`

```

5811 \def\citeN{%
5812     \def\@citesep{-1000}%
5813     \def\@cite##1##2{##1}%
5814     \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
5815     \@citedata@opt
5816 }%

```

`\shortciteN`

```

5817 \def\shortciteN{%
5818     \def\@citesep{-1000}%
5819     \def\@cite##1##2{##1}%
5820     \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
5821     \@citedata@opt
5822 }%

```

`\@citedata@opt`

```

5823 \def\@citedata@opt{%
5824     \let\@cite@opt\@empty
5825     \@ifnextchar [{%
5826         \@tempswatrue
5827         \@citedatax@opt
5828     }{%
5829         \@tempswafalse
5830         \@citedatax[]%
5831     }%
5832 }%

```

`\@citedatax@opt`

```

5833 \def\@citedatax@opt[#1]{%
5834     \def\@cite@opt{, #1}%
5835     \@citedatax[{#1}]%
5836 }%

5837 }{}

```

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.

```
5838 \def\Hy@EveryPageAnchor{%
5839   \Hy@DistillerDestFix
5840   \ifHy@pageanchor
5841     \ifHy@hypertextnames
5842     \ifHy@plainpages
5843       \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
5844     \else
5845       \begingroup
5846         \let\@number\@firstofone
5847         \Hy@unicodedefalse
5848         \pdfstringdef\@theH@page{\thepage}%
5849       \endgroup
5850       \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@theH@page}}%
5851     \fi
5852   \else
5853     \Hy@GlobalStepCount\Hy@pagecounter
5854     \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\Hy@pagecounter}}%
5855   \fi
5856   \vbox to 0pt{%
5857     \kern\voffset
5858     \kern\topmargin
5859     \kern-1bp\relax
5860     \hbox to 0pt{%
5861       \kern\hoffset
5862       \kern\ifodd\value{page}%
5863         \oddsidemargin
5864       \else
5865         \evensidemargin
5866       \fi
5867       \kern-1bp\relax
5868       \Hy@TempPageAnchor
5869     \hss
5870   }%
5871   \vss
5872 }%
5873 \fi
5874 }
5875 \g@addto@macro\Hy@EveryPageBoxHook{%
5876   \Hy@EveryPageAnchor
5877 }
```

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.

```
5878 \begingroup\expandafter\expandafter\expandafter\endgroup
```

```

5879 \expandafter\ifx\csname chapter\endcsname\relax
5880   \def\toclevel@part{0}%
5881 \else
5882   \def\toclevel@part{-1}%
5883 \fi
5884 \def\toclevel@chapter{0}
5885 \def\toclevel@section{1}
5886 \def\toclevel@subsection{2}
5887 \def\toclevel@subsubsection{3}
5888 \def\toclevel@paragraph{4}
5889 \def\toclevel@subparagraph{5}
5890 \def\toclevel@figure{0}
5891 \def\toclevel@table{0}
5892 \@ifpackageloaded{listings}{%
5893   \providecommand*\theHlstlisting{\thelstlisting}%
5894   \providecommand*\toclevel@lstlisting{0}%
5895 }{}
5896 \@ifpackageloaded{listing}{%
5897   \providecommand*\theHlisting{\thelisting}%
5898   \providecommand*\toclevel@listing{0}%
5899 }{}
5900 \def\addcontentsline#1#2#3{% toc extension, type, tag
5901   \begingroup
5902     \let\label\gobble
5903     \let\textlatin\@firstofone
5904     \ifx\@currentHref\@empty
5905       \Hy@Warning{%
5906         No destination for bookmark of \string\addcontentsline,%
5907         \MessageBreak destination is added%
5908       }%
5909       \phantomsection
5910     \fi
5911     \expandafter\ifx\csname toclevel@#2\endcsname\relax
5912       \begingroup
5913         \def\Hy@tempa{#1}%
5914         \ifx\Hy@tempa\Hy@bookmarkstype
5915           \Hy@WarningNoLine{%
5916             bookmark level for unknown #2 defaults to 0%
5917           }%
5918         \else
5919           \Hy@Info{bookmark level for unknown #2 defaults to 0}%
5920         \fi
5921       \endgroup
5922       \expandafter\gdef\csname toclevel@#2\endcsname{0}%
5923     \fi
5924     \edef\Hy@toclevel{\csname toclevel@#2\endcsname}%
5925     \Hy@writebookmark{\csname the#2\endcsname}%
5926       {#3}%
5927       {\@currentHref}%
5928       {\Hy@toclevel}%
5929       {#1}%
5930     \ifHy@verbose
5931       \def\Hy@tempa{#3}%
5932       \@onelevel@sanitize\Hy@tempa
5933       \typeout{pdfTeX: bookmark at \the\inputlineno: %
5934         {\csname the#2\endcsname}%
5935         {\Hy@tempa}%

```

```

5936      {\@currentHref}%
5937      {\Hy@toclevel}%
5938      {#1}%
5939    }%
5940  \fi
5941  \addtocontents{#1}{%
5942    \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
5943  }%
5944  \endgroup
5945 }
5946 \def\contentsline#1#2#3#4{%
5947   \ifx\#4\%
5948     \csname l@#1\endcsname{#2}{#3}%
5949   \else
5950     \ifcase\Hy@linktoc % none
5951       \csname l@#1\endcsname{#2}{#3}%
5952     \or % section
5953       \csname l@#1\endcsname{%
5954         \hyper@linkstart{link}{#4}{#2}\hyper@linkend
5955       }{#3}%
5956     \or % page
5957       \csname l@#1\endcsname{#2}{%
5958         \hyper@linkstart{link}{#4}{#3}\hyper@linkend
5959       }%
5960     \else % all
5961       \csname l@#1\endcsname{%
5962         \hyper@linkstart{link}{#4}{#2}\hyper@linkend
5963       }{%
5964         \hyper@linkstart{link}{#4}{#3}\hyper@linkend
5965       }%
5966     \fi
5967   \fi
5968 }
5969 \</package>
5970 \<check>
5971 \checklatex
5972 \checkcommand\def\addcontentsline#1#2#3{%
5973   \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%
5974 }
5975 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
5976 \</check>
5977 \<*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.

```

5978 \let\H@definecounter\@definecounter
5979 \def\@definecounter#1{%
5980   \H@definecounter{#1}%
5981   \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
5982 }

```

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.

```

5983 \let\H@newctr\@newctr

```

```

5984 \def\@newctr#1[#2]{%
5985   \H@newctr#1[#2]}%
5986   \expandafter\def\csname theH#1\endcsname{%
5987     \csname the\@ifundefined{theH#2}{H}#2\endcsname.\arabic{#1}%
5988   }%
5989 }

```

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.

```

5990 \ifpackageloaded{amsmath}{%
5991   \def\Hy@make@anchor{%
5992     \Hy@GlobalStepCount\Hy@linkcounter
5993     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
5994     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
5995   }%
5996   \def\Hy@make@df@tag@@#1{%
5997     \gdef\df@tag{%
5998       \maketag@@@{\Hy@make@anchor#1}%
5999       \def\@currentlabel{#1}%
6000     }%
6001   }%
6002   \def\Hy@make@df@tag@@@#1{%
6003     \gdef\df@tag{%
6004       \tagform@{\Hy@make@anchor#1}%
6005       \toks@{\p@equation{#1}}%
6006       \edef\@currentlabel{\the\toks@}%
6007     }%
6008   }%
6009   \let\HyOrg@make@df@tag@@\make@df@tag@@
6010   \let\HyOrg@make@df@tag@@@\make@df@tag@@@
6011   \let\make@df@tag@@\Hy@make@df@tag@@
6012   \let\make@df@tag@@@\Hy@make@df@tag@@@
6013 }{}

```

Only play with `\seteqlebal` if we are using pdf \TeX . Other drivers cause problems; requested by Michael Downes (AMS).

```

6014 \ifpackagewith{hyperref}{pdf $\TeX$ }{%
6015   \let\H@seteqlabel\@seteqlabel
6016   \def\@seteqlabel#1{%
6017     \H@seteqlabel{#1}%
6018     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
6019     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
6020   }%
6021 }{}

```

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@tagform0{\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.

```

6022 \let\HyOrg@addtoreset\@addtoreset
6023 \def\@addtoreset#1#2{%
6024   \HyOrg@addtoreset{#1}{#2}%
6025   \expandafter\xdef\csname theH#1\endcsname{%
6026     \expandafter\noexpand
6027     \csname the\@ifundefined{theH#2}{}H#2\endcsname
6028     .\noexpand\the\noexpand\value{#1}%
6029   }%
6030 }

```

\numberwithin A appropriate definition of hyperref's companion counter (\theH...) is added for correct link names.

```

6031 </package>
6032 <*check>
6033 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
6034 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
6035   \@ifundefined{c@#2}{\@nocounterr{#2}}{%
6036     \@ifundefined{c@#3}{\@nocnterr{#3}}{%
6037       \@addtoreset{#2}{#3}%
6038       \@xp\xdef\csname the#2\endcsname{%
6039         \@xp@nx\csname the#3\endcsname .\@nx#1{#2}%
6040       }%
6041     }%
6042   }%
6043 }%
6044 </check>
6045 <*package>
6046 \@ifpackageloaded{amsmath}{%
6047   \@ifpackagelater{amsmath}{1999/12/14}{%
6048     \renewcommand*{\numberwithin}[3][\arabic]{%
6049       \@ifundefined{c@#2}{\@nocounterr{#2}}{%
6050         \@ifundefined{c@#3}{\@nocnterr{#3}}{%
6051           \HyOrg@addtoreset{#2}{#3}%
6052           \@xp\xdef\csname the#2\endcsname{%
6053             \@xp@nx\csname the#3\endcsname .\@nx#1{#2}%
6054           }%
6055           \@xp\xdef\csname theH#2\endcsname{%
6056             \@xp@nx
6057             \csname the\@ifundefined{theH#3}{}H#3\endcsname
6058             .\@nx#1{#2}%
6059           }%
6060         }%
6061       }%
6062     }%
6063   }{%
6064     \Hy@WarningNoLine{%
6065       \string\numberwithin\space of package 'amsmath' %
6066       only fixed\MessageBreak

```



```

6067         for version 2000/06/06 v2.12 or newer%
6068     }%
6069 }%
6070 }{}

```

42 Included figures

Simply intercept the low level graphics package macro.

```

6071 \ifHy@figures
6072   \let\Hy@Gin@setfile\Gin@setfile
6073   \def\Gin@setfile#1#2#3{%
6074     \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
6075   }%
6076 \fi
6077 \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 emboldening 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.

```

6078 \ifHy@hyperindex
6079   \def\HyInd@ParenLeft{({}%
6080   \def\HyInd@ParenRight{)}}%
6081   \Hy@nextfalse
6082   \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
6083   \@ifpackageloaded{index}{\Hy@nexttrue}{}%
6084   \begingroup
6085     \lccode'\|=\expandafter'\HyInd@EncapChar\relax
6086   \lowercase{\endgroup
6087     \ifHy@next
6088       \let\HyInd@org@wrindex\@wrindex
6089       \def\@wrindex#1#2{\HyInd@wrindex{#1}#2||\}%
6090       \def\HyInd@wrindex#1#2|#3|#4{\%
6091         \ifx\|#3\%
6092           \HyInd@org@wrindex{#1}{#2|hyperpage}%
6093         \else
6094           \def\Hy@temp@A{#3}%
6095           \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
6096             \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
6097             \relax
6098           \HyInd@org@wrindex{#1}{#2|#3}%
6099         \else
6100           \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
6101         \fi
6102       \fi
6103     }%
6104   \else

```

```

6105 \def\@wrindex#1{\@wrindex#1||\}%
6106 \def\@wrindex#1|#2|#3\{\%
6107 \if@filesw
6108 \ifx\#2\%
6109 \protected@write\@indexfile{}\%
6110 \string\indexentry{#1|hyperpage}{\thepage}%
6111 }%
6112 \else
6113 \def\Hy@temp@A{#2}%
6114 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
6115 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
6116 \relax
6117 \protected@write\@indexfile{}\%
6118 \string\indexentry{#1|#2}{\thepage}%
6119 }%
6120 \else
6121 \protected@write\@indexfile{}\%
6122 \string\indexentry{#1|#2hyperpage}{\thepage}%
6123 }%
6124 \fi
6125 \fi
6126 \fi
6127 \endgroup
6128 \@esphack
6129 }%
6130 \fi
6131 }%
6132 \fi
6133 \Hy@DisableOption{hyperindex}
6134 \Hy@DisableOption{encap}

```

`\nohyperpage` The definition of `\nohyperpage` is just a precaution. It is used to mark code that does not belong to a page number, but `\nohyperpage` is never executed.

```
6135 \def\nohyperpage#1{#1}
```

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.

```

6136 \def\hyperpage#1{\%
6137 \HyInd@hyperpage#1\nohyperpage{}\@nil
6138 }
6139 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{\%
6140 \HyInd@@hyperpage{#1}%
6141 #2%
6142 \def\Hy@temp{#3}%
6143 \ifx\Hy@temp\@empty
6144 \else
6145 \Hy@ReturnAfterFi{\%
6146 \HyInd@hyperpage#3\@nil
6147 }%
6148 \fi
6149 }
6150 \def\HyInd@@hyperpage#1{\@hyperpage#1----\}%
6151 \def\@hyperpage#1--#2--#3\{\%
6152 \ifx\#2\%
6153 \@commahyperpage{#1}%
6154 \else
6155 \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%

```

```

6156 \fi
6157 }
6158 \def\@commahyperpage#1{\@commahyperpage#1, ,\}
6159 \def\@commahyperpage#1, #2,#3\{\%
6160 \ifx\#2\%
6161 \HyInd@pagelink{#1}%
6162 \else
6163 \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
6164 \fi
6165 }

```

The argument of \hyperpage can be empty. And the line breaking algorithm of Makeindex can introduce spaces. So we have to remove them.

```

6166 \def\HyInd@pagelink#1{%
6167 \begingroup
6168 \toks@={}%
6169 \HyInd@removespaces#1 \@nil
6170 \endgroup
6171 }
6172 \def\HyInd@removespaces#1 #2\@nil{%
6173 \toks@=\expandafter{\the\toks@#1}%
6174 \ifx\#2\%
6175 \edef\x{\the\toks@}%
6176 \ifx\x\@empty
6177 \else
6178 \hyperlink{page.\the\toks@}{\the\toks@}%
6179 \fi
6180 \else
6181 \Hy@ReturnAfterFi{%
6182 \HyInd@removespaces#2\@nil
6183 }%
6184 \fi
6185 }

```

44 Compatibility with foiltex

```

6186 \@ifclassloaded{foils}{%
6187 \providecommand*\ext@table{lot}%
6188 \providecommand*\ext@figure{lof}%
6189 }{}

```

45 Compatibility with seminar slide package

This requires seminar.bg2, version 1.6 or later. Contributions by Denis Girou (denis.girou@idris.fr).

```

6190 \@ifclassloaded{seminar}{%
6191 \Hy@seminarslidestrue\newcommand\theHslide{\arabic{slide}}%
6192 }{%
6193 \Hy@seminarslidesfalse
6194 }
6195 \@ifpackageloaded{slidesec}{%
6196 \newcommand\theHslidesection {\arabic{slidesection}}%
6197 \newcommand\theHslidesubsection{%
6198 \theHslidesection.\arabic{slidesubsection}}%
6199 }%
6200 \def\slide@heading[#1]#2{%

```

```

6201 \H@refstepcounter{slidesection}%
6202 \@addtoreset{slidesubsection}{slidesection}%
6203 \addtocontents{los}{%
6204   \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}%
6205   {\@SCTR}{slideheading.\theslidesection}%
6206 }%
6207 \def\Hy@tempa{#2}%
6208 \ifx\Hy@tempa\@empty
6209 \else
6210   {%
6211     \edef\@currentlabel{%
6212       \csname p@slidesection\endcsname\theslidesection
6213     }%
6214     \makeslideheading{#2}%
6215   }%
6216 \fi
6217 \gdef\theslideheading{#1}%
6218 \gdef\theslidesubheading{}%
6219 \ifHy@bookmarksnumbered
6220   \def\Hy@slidetitle{\theslidesection\space #1}%
6221 \else
6222   \def\Hy@slidetitle{#1}%
6223 \fi
6224 \ifHy@hypertextnames
6225   \ifHy@naturalnames
6226     \hyper@@anchor{slideheading.\theslidesection}{\relax}%
6227     \Hy@writebookmark
6228       {\theslidesection}%
6229       {\Hy@slidetitle}%
6230       {slideheading.\theslidesection}%
6231       {1}%
6232       {toc}%
6233   \else
6234     \hyper@@anchor{slideheading.\theHslidesection}{\relax}%
6235     \Hy@writebookmark
6236       {\theslidesection}%
6237       {\Hy@slidetitle}%
6238       {slideheading.\theHslidesection}%
6239       {1}%
6240       {toc}%
6241   \fi
6242 \else
6243   \Hy@GlobalStepCount\Hy@linkcounter
6244   \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
6245   \Hy@writebookmark
6246     {\theslidesection}%
6247     {\Hy@slidetitle}%
6248     {slideheading.\the\Hy@linkcounter}%
6249     {1}%
6250     {toc}%
6251 \fi
6252 }%
6253 \def\slide@subheading[#1]#2{%
6254   \H@refstepcounter{slidesubsection}%
6255   \addtocontents{los}{%
6256     \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
6257     {\@SCTR}{slideheading.\theslidesubsection}%

```

```

6258 }%
6259 \def\Hy@tempa{#2}%
6260 \ifx\Hy@tempa\@empty
6261 \else
6262 {%
6263   \edef\@currentlabel{%
6264     \csname p@slidesubsection\endcsname\theslidesubsection
6265   }%
6266   \makeslidesubheading{#2}%
6267 }%
6268 \fi
6269 \gdef\theslidesubheading{#1}%
6270 \ifHy@bookmarksnumbered
6271   \def\Hy@slidetitle{\theslidesubsection\space #1}%
6272 \else
6273   \def\Hy@slidetitle{#1}%
6274 \fi
6275 \ifHy@hypertextnames
6276   \ifHy@naturalnames
6277     \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
6278     \Hy@writebookmark
6279       {\theslidesubsection}%
6280       {\Hy@slidetitle}%
6281       {slideheading.\theslidesubsection}%
6282       {2}%
6283       {toc}%
6284   \else
6285     \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
6286     \Hy@writebookmark
6287       {\theslidesubsection}%
6288       {\Hy@slidetitle}%
6289       {slideheading.\theHslidesubsection}%
6290       {2}%
6291       {toc}%
6292   \fi
6293 \else
6294   \Hy@GlobalStepCount\Hy@linkcounter
6295   \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
6296   \Hy@writebookmark
6297     {\theslidesubsection}%
6298     {\Hy@slidetitle}%
6299     {slideheading.\the\Hy@linkcounter}%
6300     {1}%
6301     {toc}%
6302 \fi
6303 }%
6304 \providecommand*\listslidenamename{List of Slides}%
6305 \def\listofslides{%
6306   \section*{%
6307     \listslidenamename
6308     \@mkboth{%
6309       \expandafter\MakeUppercase\listslidenamename
6310     }{%
6311       \expandafter\MakeUppercase\listslidenamename
6312     }%
6313   }%
6314   \def\l@slide##1##2##3##4{%

```

```

6315     \slide@undottedcline{%
6316         \slidenumberline{##3}{\hyperlink{##4}{##2}}%
6317     }{%
6318 }%
6319 \let\l@subslide\l@slide
6320 \@startlos
6321 }%
6322 \def\slide@contents{%
6323     \def\l@slide##1##2##3##4{%
6324         \slide@cline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
6325     }%
6326     \let\l@subslide\@gobblefour
6327     \@startlos
6328 }%
6329 \def\Slide@contents{%
6330     \def\l@slide##1##2##3##4{%
6331         \ifcase\lslide@flag
6332             \message{##1 ** \the\c@slide@section}%
6333             \ifnum##1>\c@slide@section
6334                 \def\lslide@flag{1}%
6335                 {%
6336                     \large
6337                     \slide@cline{%
6338                         \slidenumberline{$\rightarrow\bullet$}%
6339                         {\hyperlink{##4}{##2}}%
6340                     }{##3}%
6341                 }%
6342             \else
6343                 {%
6344                     \large
6345                     \slide@cline{%
6346                         \slidenumberline{$\surd;$\bullet$}%
6347                         {\hyperlink{##4}{##2}}%
6348                     }{##3}%
6349                 }%
6350             \fi
6351         \or
6352             \def\lslide@flag{2}%
6353             {%
6354                 \large
6355                 \slide@cline{%
6356                     \slidenumberline{$\bullet$}%
6357                     {\hyperlink{##4}{##2}}%
6358                 }{##3}%
6359             }%
6360         \or
6361             {%
6362                 \large
6363                 \slide@cline{%
6364                     \slidenumberline{$\bullet$}%
6365                     {\hyperlink{##4}{##2}}%
6366                 }{##3}%
6367             }%
6368         \fi
6369     }%
6370     \def\l@subslide##1##2##3##4{%
6371         \ifnum\lslide@flag=1 %

```

```

6372         \undottedtocline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}{}%
6373     \fi
6374 }%
6375 \def\lslide@flag{0}%
6376 \startlos
6377 }%
6378 }{}

```

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.)

```

6379 \ifHy@texht
6380 \expandafter\endinput
6381 \fi
6382 \let\real@setref\@setref
6383 \def\@setref#1#2#3{% csname, extract group, refname
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\Hy@setref@link#1\@empty\@empty\@nil{#2}%
6392     \fi
6393 }

```

\Hy@setref@link extracts the reference information entries, because \hyper@@link does not expand arguments for the automatic link type detection.

```

6394 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
6395     \begingroup
6396     \toks0={\hyper@@link{#5}{#4}}%
6397     \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
6398     \edef\x{\endgroup
6399         \the\toks0 {\the\toks1 }%
6400     }%
6401     \x
6402 }
6403 \def\@pagesetref#1#2#3{% csname, extract macro, ref
6404     \ifx#1\relax
6405         \protect\G@refundefinedtrue
6406         \nfss@text{\reset@font\bfseries ??}%
6407         \@latex@warning{%
6408             Reference ‘#3’ on page \thepage \space undefined%
6409         }%
6410     \else
6411         \protect\hyper@@link
6412         {\expandafter\@fifthoffive#1}%
6413         {page.\expandafter\@secondoffive#1}%
6414         {\expandafter\@secondoffive#1}%
6415     \fi
6416 }
6417 </package>
6418 <*check>
6419 \checklatex
6420 \checkcommand\def\@setref#1#2#3{%
6421     \ifx#1\relax
6422         \protect\G@refundefinedtrue

```

```

6423 \nfss@text{\reset@font\bfseries ??}%
6424 \latex@warning{%
6425   Reference '#3' on page \thepage\space undefined%
6426 }%
6427 \else
6428   \expandafter#2#1\null
6429 \fi
6430 }
6431 \</check>
6432 \<*package>

```

Now some extended referencing. `\ref*` and `\pageref*` are not linked, and `\autoref` prefixes with a tag based on the type.

```

6433 \def\HyRef@StarSetRef#1{%
6434   \begingroup
6435   \Hy@safe@activestrue
6436   \edef\x{#1}%
6437   \@onelevel@sanitize\x
6438   \edef\x{\endgroup
6439     \noexpand\HyRef@@StarSetRef
6440     \expandafter\noexpand\csname r@\x\endcsname{\x}%
6441   }%
6442   \x
6443 }
6444 \def\HyRef@@StarSetRef#1#2#3{%
6445   \ifx#1\@undefined
6446     \let#1\relax
6447   \fi
6448   \real@setref#1#3{#2}%
6449 }
6450 \def\@refstar#1{%
6451   \HyRef@StarSetRef{#1}\@firstoffive
6452 }
6453 \def\@pagerefstar#1{%
6454   \HyRef@StarSetRef{#1}\@secondoffive
6455 }
6456 \AtBeginDocument{%
6457   \ifpackageloaded{varioref}{%
6458     \def\@Refstar#1{%
6459       \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
6460     }%
6461     \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
6462       \MakeUppercase#1%
6463     }%
6464     \DeclareRobustCommand*\Ref*{%
6465       \@ifstar\@Refstar\HyRef@Ref
6466     }%
6467     \def\HyRef@Ref#1{%
6468       \hyperref[#{#1}]{\Ref*{#1}}%
6469     }%
6470     \def\Vr@f#1{%
6471       \leavevmode\unskip\vref@space
6472       \hyperref[#{#1}]{%
6473         \Ref*{#1}%
6474         \let\vref@space\nobreakspace
6475         \vpageref[\unskip]{#1}%
6476       }%
6477     }%

```



```

6478 \def\vr@f#1{%
6479 \leavevmode\unskip\href@space
6480 \begingroup
6481 \let\T@pageref\@pagerefstar
6482 \hyperref[#{1}]{%
6483 \ref*{#1}%
6484 \vpageref[\unskip]{#1}%
6485 }%
6486 \endgroup
6487 }%
6488 }{}%
6489 }
6490 \DeclareRobustCommand*\autopageref{%
6491 \ifstar{%
6492 \HyRef@autopagerefname\pageref*%
6493 }\HyRef@autopageref
6494 }
6495 \def\HyRef@autopageref#1{%
6496 \hyperref[#{1}]{\HyRef@autopagerefname\pageref*{#1}}%
6497 }
6498 \def\HyRef@autopagerefname{%
6499 \@ifundefined{pageautorefname}{%
6500 \@ifundefined{pagename}{%
6501 \Hy@Warning{No autoref name for 'page'}%
6502 }{%
6503 \pagename\nobreakspace
6504 }%
6505 }{%
6506 \pageautorefname\nobreakspace
6507 }%
6508 }
6509 \DeclareRobustCommand*\autoref{%
6510 \ifstar{\HyRef@autoref@gobbletwo}{\HyRef@autoref\hyper@@link}%
6511 }
6512 \def\HyRef@autoref#1#2{%
6513 \begingroup
6514 \Hy@safe@activetrue
6515 \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
6516 \endgroup
6517 }
6518 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
6519 \HyRef@ShowKeysRef{#2}%
6520 \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
6521 \edef\HyRef@thisref{%
6522 \expandafter\@fourthoffive#1\@empty\@empty\@empty
6523 }%
6524 \expandafter\HyRef@testreftype\HyRef@thisref.\.%
6525 \Hy@safe@activesfalse
6526 #3{%
6527 \expandafter\@fifthoffive#1\@empty\@empty\@empty
6528 }{%
6529 \expandafter\@fourthoffive#1\@empty\@empty\@empty
6530 }{%
6531 \HyRef@currentHtag
6532 \expandafter\@firstoffive#1\@empty\@empty\@empty
6533 \null
6534 }%

```

```

6535 \else
6536   \protect\G@refundefinedtrue
6537   \nfss@text{\reset@font\bfseries ??}%
6538   \@latex@warning{%
6539     Reference ‘#2’ on page \thepage\space undefined%
6540   }%
6541 \fi
6542 }
6543 \def\HyRef@testreftype#1.#2\\{%
6544   \@ifundefined{#1autorefname}{%
6545     \@ifundefined{#1name}{%
6546       \HyRef@StripStar#1\\*\\@nil{#1}%
6547       \@ifundefined{\HyRef@name autorefname}{%
6548         \@ifundefined{\HyRef@name name}{%
6549           \def\HyRef@currentHtag{%
6550             \Hy@Warning{No autoref name for ‘#1’}%
6551           }{%
6552             \edef\HyRef@currentHtag{%
6553               \expandafter\noexpand\csname\HyRef@name name\endcsname
6554               \noexpand~%
6555             }%
6556           }%
6557         }{%
6558           \edef\HyRef@currentHtag{%
6559             \expandafter\noexpand\csname\HyRef@name autorefname\endcsname
6560             \noexpand~%
6561           }%
6562         }%
6563       }{%
6564         \edef\HyRef@currentHtag{%
6565           \expandafter\noexpand\csname#1name\endcsname
6566           \noexpand~%
6567         }%
6568       }%
6569     }{%
6570       \edef\HyRef@currentHtag{%
6571         \expandafter\noexpand\csname#1autorefname\endcsname
6572         \noexpand~%
6573       }%
6574     }%
6575 }
6576 \def\HyRef@StripStar#1*\\#2@nil#3{%
6577   \def\HyRef@name{#2}%
6578   \ifx\HyRef@name\HyRef@CaseStar
6579     \def\HyRef@name{#1}%
6580   \else
6581     \def\HyRef@name{#3}%
6582   \fi
6583 }
6584 \def\HyRef@CaseStar{*\\}
6585 \def\HyRef@currentHtag{}

```

Support for package showkeys.

\HyRef@ShowKeysRef

```

6586 \let\HyRef@ShowKeysRef\@gobble
6587 \def\HyRef@ShowKeysInit{%
6588   \begingroup\expandafter\expandafter\expandafter\endgroup

```

```

6589 \expandafter\ifx\csname SK@@label\endcsname\relax
6590 \else
6591   \ifx\SK@ref\@empty
6592   \else
6593     \def\HyRef@ShowKeysRef{%
6594       \SK@\SK@@ref
6595     }%
6596   \fi
6597 \fi
6598 }
6599 \@ifpackageloaded{showkeys}{%
6600   \HyRef@ShowKeysInit
6601 }{%
6602   \AtBeginDocument{%
6603     \@ifpackageloaded{showkeys}{%
6604       \HyRef@ShowKeysInit
6605     }{}%
6606   }%
6607 }

```

Defaults for the names that `\autoref` uses.

```

6608 \providecommand*{\AMSautorefname}{\equationautorefname}
6609 \providecommand*{\Hfootnoteautorefname}{\footnoteautorefname}
6610 \providecommand*{\Itemautorefname}{\itemautorefname}
6611 \providecommand*{\itemautorefname}{item}
6612 \providecommand*{\equationautorefname}{Equation}
6613 \providecommand*{\footnoteautorefname}{footnote}
6614 \providecommand*{\itemautorefname}{item}
6615 \providecommand*{\figureautorefname}{Figure}
6616 \providecommand*{\tableautorefname}{Table}
6617 \providecommand*{\partautorefname}{Part}
6618 \providecommand*{\appendixautorefname}{Appendix}
6619 \providecommand*{\chapterautorefname}{chapter}
6620 \providecommand*{\sectionautorefname}{section}
6621 \providecommand*{\subsectionautorefname}{subsection}
6622 \providecommand*{\subsubsectionautorefname}{subsubsection}
6623 \providecommand*{\paragraphautorefname}{paragraph}
6624 \providecommand*{\subparagraphautorefname}{subparagraph}
6625 \providecommand*{\FancyVerbLineautorefname}{line}
6626 \providecommand*{\theoremautorefname}{Theorem}
6627 \providecommand*{\pageautorefname}{page}
6628 </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_TE_X offers `\pdfescapestring`.

```

6629 < *pdfTex | dvipdfm | vtex | pdfmarkbase | dviwindo >
6630 \RequirePackage{pdfTexcmds}[2007/11/11]

```

```

6631 \begingroup\expandafter\expandafter\expandafter\endgroup
6632 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
6633   \begingroup
6634     \catcode'\|=0 %
6635     \@makeother\| %
6636     \@firstofone{\endgroup
6637       |def|Hy@pstringdef#1#2{%
6638         |begingroup
6639           |edef~{|string~}%
6640           |xdef|Hy@gtemp{#2}%
6641         |endgroup
6642         |let#1|Hy@gtemp
6643         |@onelevel@sanitize#1%
6644         |edef#1{|expandafter|Hy@ExchangeBackslash#1\|@nil}%
6645         |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
6646         |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1)|@nil}%
6647       }%
6648       |def|Hy@ExchangeBackslash#1\#2|@nil{%
6649         #1%
6650         |ifx|\#2|\%%
6651         |else
6652           \\\%
6653           |Hy@ReturnAfterFi{%
6654             |Hy@ExchangeBackslash#2|@nil
6655           }%
6656         |fi
6657       }%
6658     }%
6659     \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
6660       #1%
6661       \ifx\#2\%%
6662       \else
6663         \@backslashchar(%
6664         \Hy@ReturnAfterFi{%
6665           \Hy@ExchangeLeftParenthesis#2\@nil
6666         }%
6667       \fi
6668     }%
6669     \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
6670       #1%
6671       \ifx\#2\%%
6672       \else
6673         \@backslashchar)%
6674         \Hy@ReturnAfterFi{%
6675           \Hy@ExchangeRightParenthesis#2\@nil
6676         }%
6677       \fi
6678     }%
6679   \else
6680     \def\Hy@pstringdef#1#2{%
6681       \begingroup
6682         \edef~{\string~}%
6683         \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
6684       \endgroup
6685       \let#1\Hy@gtemp
6686     }%
6687   \fi

```

```
6688 </pdfTeX | dvipdfm | vtex | pdfmarkbase | dviwindo>
```

46.2 pdfTeX

```
6689 <*pdfTeX>
6690 \providecommand*{\XR@ext}{pdf}
6691 \Hy@setbreaklinks{true}
```

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`

```
6692 \let\Hy@pdfminorversion\relax
6693 \begingroup\expandafter\expandafter\expandafter\endgroup
6694 \expandafter\ifx\csname pdfminorversion\endcsname\relax
6695   \begingroup\expandafter\expandafter\expandafter\endgroup
6696   \expandafter\ifx\csname pdfoptionpdfminorversion\endcsname\relax
6697     \else
6698       \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
6699     \fi
6700   \else
6701     \def\Hy@pdfminorversion{\pdfminorversion}%
6702   \fi
6703 \@@ifundefined{Hy@pdfminorversion}{%
6704   \PackageInfo{hyperref}{%
6705     PDF version is not set, because pdfTeX is too old (<1.10a)%
6706   }%
6707 }{%
6708   \ifHy@ocgcolorlinks
6709     \ifnum\Hy@pdfminorversion<5 %
6710       \setkeys{Hyp}{pdfversion=1.5}%
6711     \fi
6712   \fi
6713   \ifHy@setpdfversion
6714     \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
6715     \else
6716       \Hy@pdfminorversion=\Hy@pdfversion\relax
6717     \fi
6718     \PackageInfo{hyperref}{%
6719       \expandafter\string\Hy@pdfminorversion
6720       :=\number\Hy@pdfversion\space
6721     }%
6722   \fi
6723   \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
6724 }
6725 \Hy@DisableOption{pdfversion}%

6726 \ifHy@ocgcolorlinks
6727   \immediate\pdfobj{%
6728     <<%
6729       /Type/OCG%
6730       /Name(View)%
6731       /Usage<<%
6732         /Print<<%
6733           /PrintState/OFF%
```

```

6734         >>%
6735         /View<<%
6736         /ViewState/ON%
6737         >>%
6738     >>%
6739 >>%
6740 }%
6741 \edef\OBJ@OCG@view{\the\pdflastobj\space 0 R}%
6742 \immediate\pdfobj{%
6743     <<%
6744     /Type/OCG%
6745     /Name(Print)%
6746     /Usage<<%
6747     /Print<<%
6748     /PrintState/ON%
6749     >>%
6750     /View<<%
6751     /ViewState/OFF%
6752     >>%
6753     >>%
6754     >>%
6755 }%
6756 \edef\OBJ@OCG@print{\the\pdflastobj\space 0 R}%
6757 \immediate\pdfobj{%
6758     [%
6759     \OBJ@OCG@view\space\OBJ@OCG@print
6760     ]%
6761 }%
6762 \edef\OBJ@OCGs{\the\pdflastobj\space 0 R}%
6763 \pdfcatalog{%
6764     /OCProperties<<%
6765     /OCGs \OBJ@OCGs
6766     /D<<%
6767     /OFF[\OBJ@OCG@print]%
6768     /AS[%
6769     <<%
6770     /Event/View%
6771     /OCGs \OBJ@OCGs
6772     /Category[/View]%
6773     >>%
6774     <<%
6775     /Event/Print%
6776     /OCGs \OBJ@OCGs
6777     /Category[/Print]%
6778     >>%
6779     <<%
6780     /Event/Export%
6781     /OCGs \OBJ@OCGs
6782     /Category[/Print]%
6783     >>%
6784     ]%
6785     >>%
6786     >>%
6787 }%
6788 \beginingroup
6789 \edef\x{\endgroup
6790     \pdfpageresources{%

```

```

6791      /Properties<<%
6792      /OCView \OBJ@OCG@view
6793      /OCPrint \OBJ@OCG@print
6794      >>%
6795  }%
6796 }%
6797 \x
6798 \AtBeginDocument{%
6799   \def\Hy@colorlink#1{%
6800     \begingroup
6801     \ifHy@ocgcolorlinks
6802       \def\Hy@ocgcolor{#1}%
6803       \setbox0=\color@hbox
6804     \else
6805       \HyColor@UseColor#1%
6806     \fi
6807   }%
6808   \def\Hy@endcolorlink{%
6809     \ifHy@ocgcolorlinks
6810       \color@endbox
6811     \mbox{%
6812       \pdfliteral page{/OC/OCPrint BDC}%
6813       \rlap{\copy0}%
6814       \pdfliteral page{EMC/OC/OCView BDC}%
6815       \begingroup
6816         \expandafter\HyColor@UseColor\Hy@ocgcolor
6817         \box0 %
6818       \endgroup
6819       \pdfliteral page{EMC}%
6820     }%
6821   \fi
6822   \endgroup
6823 }%
6824 }%
6825 \else
6826   \Hy@DisableOption{ocgcolorlinks}%
6827 \fi

```

First, allow for some changes and additions to pdftex syntax:

```

6828 \def\setpdflinkmargin#1{\pdflinkmargin#1}
6829 \ifx\pdfstartlink\@undefined% less than version 14
6830   \let\pdfstartlink\pdfannotlink
6831   \let\pdflinkmargin\@tempdima
6832   \let\pdfxform\pdfform
6833   \let\pdflastxform\pdfastform
6834   \let\pdfrefxform\pdfrefform
6835 \else
6836   \pdflinkmargin1pt %
6837 \fi

```

First set up the default linking

```

6838 \providecommand*\@pdfview{XYZ}

```

First define the anchors:

```

6839 \def\new@pdflink#1{%
6840   \ifHy@verbose
6841     \typeout{pdftex: define anchor at line \the\inputlineno: #1}%
6842   \fi
6843   \Hy@SaveLastskip

```

```

6844 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
6845 \Hy@DestName\Hy@pstringDest\@pdfview
6846 \Hy@RestoreLastskip
6847 }
6848 \let\pdf@endanchor\@empty

```

\Hy@DestName Wrap the call of \pdfdest name in \Hy@DestName. Then it can easier be caught by package hypdestopt.

```

6849 \def\Hy@DestName#1#2{%
6850 \pdfdest name{#1}#2\relax
6851 }

```

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.

```

6852 \providecommand*\@pdfborder{0 0 1}
6853 \providecommand*\@pdfborderstyle{}
6854 \def\Hy@undefinedname{UNDEFINED}
6855 \def\find@pdflink#1#2{%
6856 \leavevmode
6857 \protected@edef\Hy@testname{#2}%
6858 \ifx\Hy@testname\@empty
6859 \let\Hy@testname\Hy@undefinedname
6860 \else
6861 \Hy@pstringdef\Hy@testname{%
6862 \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
6863 }%
6864 \fi
6865 \Hy@StartlinkName{%
6866 \ifHy@pdfa /F 4\fi
6867 \Hy@setpdfborder
6868 \ifx\@pdfhighlight\@empty
6869 \else
6870 /H\@pdfhighlight
6871 \fi
6872 \ifx\CurrentBorderColor\relax
6873 \else
6874 /C[\CurrentBorderColor]%
6875 \fi
6876 }\Hy@testname
6877 \expandafter\Hy@colorlink\csname @#1color\endcsname
6878 }
6879 \def\Hy@StartlinkName#1#2{%
6880 \pdfstartlink attr{#1}goto name{#2}\relax
6881 }
6882 \def\close@pdflink{\Hy@endcolorlink\pdfendlink}
6883 \def\hyper@anchor#1{\new@pdflink{#1}\anchor@spot\pdf@endanchor}
6884 \def\hyper@anchorstart#1{\new@pdflink{#1}\Hy@activeanchortrue}
6885 \def\hyper@anchorend{\pdf@endanchor\Hy@activeanchorfalse}
6886 \def\hyper@linkstart#1#2{%
6887 \@ifundefined{#1bordercolor}{%
6888 \let\CurrentBorderColor\relax
6889 }{%
6890 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
6891 }%
6892 \find@pdflink{#1}{#2}%

```



```

6893 }
6894 \def\hyper@linkend{\close@pdflink}
6895 \def\hyper@link#1#2#3{%
6896   \@ifundefined{@#1bordercolor}{%
6897     \let\CurrentBorderColor\relax
6898   }{%
6899     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
6900   }%
6901   \find@pdflink{#1}{#2}#3%
6902   \close@pdflink
6903 }
6904 \let\CurrentBorderColor\@linkbordercolor
6905 \def\hyper@linkurl#1#2{%
6906   \begingroup
6907     \Hy@pstringdef\Hy@pstringURI{#2}%
6908     \hyper@chars
6909     \leavevmode
6910     \pdfstartlink
6911     attr{%
6912       \Hy@setpdfborder
6913       \ifx\@pdfhighlight\@empty
6914       \else
6915         /H\@pdfhighlight
6916       \fi
6917       \ifx\@urlbordercolor\relax
6918       \else
6919         /C[\@urlbordercolor]%
6920       \fi
6921     }%
6922     user{%
6923       /Subtype/Link%
6924       \ifHy@pdfa /F 4\fi
6925       /A<<%
6926         /Type/Action%
6927         /S/URI%
6928         /URI(\Hy@pstringURI)%
6929       >>%
6930     }%
6931     \relax
6932     \Hy@colorlink\@urlcolor#1%
6933     \close@pdflink
6934   \endgroup
6935 }
6936 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
6937   \begingroup
6938     \Hy@pstringdef\Hy@pstringF{#2}%
6939     \Hy@pstringdef\Hy@pstringD{#3}%
6940     \leavevmode
6941     \pdfstartlink
6942     attr{%
6943       \Hy@setpdfborder
6944       \ifx\@pdfhighlight\@empty
6945       \else
6946         /H\@pdfhighlight
6947       \fi
6948       \ifx\@filebordercolor\relax
6949       \else

```

```

6950          /C[\@filebordercolor]%
6951      \fi
6952  }%
6953  user {%
6954      /Subtype/Link%
6955      \ifHy@pdfa /F 4\fi
6956      /A<<%
6957      /F(\Hy@pstringF)%
6958      /S/GoToR%
6959      \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}

```

```

6960      \ifx\#3\%
6961      /D[0 \@pdfstartview]%
6962  \else
6963      /D(\Hy@pstringD)%
6964  \fi
6965  >>%
6966  }%
6967  \relax
6968  \Hy@colorlink\@filecolor#1%
6969  \close@pdflink
6970 \endgroup
6971 }
6972 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
6973 \begingroup
6974   \Hy@pstringdef\Hy@pstringF{#1}%
6975   \Hy@pstringdef\Hy@pstringP{#3}%
6976   \leavevmode
6977   \pdfstartlink
6978   attr{%
6979     \Hy@setpdfborder
6980     \ifx\@pdfhighlight\@empty
6981     \else
6982       /H\@pdfhighlight
6983     \fi
6984     \ifx\@runbordercolor\relax
6985     \else
6986       /C[\@runbordercolor]%
6987     \fi
6988   }%
6989   user {%
6990     /Subtype/Link%
6991     \ifHy@pdfa /F 4\fi
6992     /A<<%
6993     /F(\Hy@pstringF)%
6994     /S/Launch%
6995     \Hy@SetNewWindow

```

```

6996         \ifx\|#3\%
6997         \else
6998             /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
6999         \fi
7000     >>%
7001 }%
7002 \relax
7003 \Hy@colorlink\@runcolor#2%
7004 \close@pdflink
7005 \endgroup
7006 }

```

\@pdfproducer

```

7007 \ifx\@pdfproducer\relax
7008 \begingroup\expandafter\expandafter\expandafter\endgroup
7009 \expandafter\ifx\csname luatexversion\endcsname\relax
7010 \def\@pdfproducer{pdfTeX}%
7011 \ifx\eTeXversion\undefined
7012 \else
7013 \ifx\eTeXversion\relax
7014 \else
7015 \ifnum\eTeXversion>0 %
7016 \def\@pdfproducer{pdfTeX}%
7017 \fi
7018 \fi
7019 \fi
7020 \ifx\pdfTeXversion\undefined
7021 \else
7022 \ifnum\pdfTeXversion<100 %
7023 \edef\@pdfproducer{%
7024 \@pdfproducer
7025 \the\pdfTeXversion.\pdfTeXrevision
7026 }%
7027 \else
7028 \ifnum\pdfTeXversion<130 %
7029 \edef\@pdfproducer{%
7030 \@pdfproducer-
7031 \expandafter\@car\the\pdfTeXversion\empty\@nil.%
7032 \expandafter\@cdr\the\pdfTeXversion\empty\@nil.%
7033 \pdfTeXrevision
7034 }%
7035 \else
7036 \ifnum\pdfTeXversion<140 %
7037 \else
7038 \def\@pdfproducer{pdfTeX}%
7039 \fi
7040 \edef\@pdfproducer{%
7041 \@pdfproducer-
7042 \expandafter\@car\the\pdfTeXversion\empty\@nil.%
7043 \expandafter\@cdr\the\pdfTeXversion\empty\@nil.%
7044 \pdfTeXrevision
7045 }%
7046 \fi
7047 \fi
7048 \fi
7049 \else
7050 \begingroup

```

```

7051     \count@=\luatexversion
7052     \divide\count@ by 100 %
7053     \edef\x{\the\count@}%
7054     \count@=-\x\relax
7055     \multiply\count@ by 100 %
7056     \advance\count@ by \luatexversion
7057     \edef\x{\endgroup
7058         \def\noexpand\pdfproducer{%
7059             LuaTeX-\x.\the\count@.\luatexrevision
7060         }%
7061     }%
7062     \x
7063 \fi
7064 \fi

```

\PDF@SetupDox

```

7065 \def\PDF@SetupDoc{%
7066   \ifx\pdfpagescrop\empty
7067   \else
7068     \edef\process@me{%
7069       \pdfpagesattr={%
7070         /CropBox[\pdfpagescrop]%
7071         \expandafter\ifx\expandafter\\the\pdfpagesattr\\%
7072         \else
7073           ^^J\the\pdfpagesattr
7074         \fi
7075       }%
7076     }%
7077     \process@me
7078   \fi
7079   \Hy@pstringdef\Hy@pstringB{\@baseurl}%
7080   \pdfcatalog{%
7081     /PageMode/\pdfpagemode
7082     \ifx\@baseurl\empty
7083     \else
7084       /URI<</Base(\Hy@pstringB)>>%
7085     \fi
7086   }%
7087   \ifx\pdfstartpage\empty
7088   \else
7089     \ifx\pdfstartview\empty
7090     \else
7091       openaction goto page\pdfstartpage{\pdfstartview}%
7092     \fi
7093   \fi
7094   \edef\Hy@temp{%
7095     \ifHy@toolbar\else /HideToolbar true\fi
7096     \ifHy@menubar\else /HideMenubar true\fi
7097     \ifHy>windowui\else /HideWindowUI true\fi
7098     \ifHy@fitwindow /FitWindow true\fi
7099     \ifHy@centerwindow /CenterWindow true\fi
7100     \ifHy@displaydoctitle /DisplayDocTitle true\fi
7101     \Hy@UseNameKey{NonFullScreenPageMode}\pdfnonfullscreenpagemode
7102     \Hy@UseNameKey{Direction}\pdfdirection
7103     \Hy@UseNameKey{ViewArea}\pdfviewarea
7104     \Hy@UseNameKey{ViewClip}\pdfviewclip
7105     \Hy@UseNameKey{PrintArea}\pdfprintarea

```

```

7106 \Hy@UseNameKey{PrintClip}\@pdfprintclip
7107 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
7108 \Hy@UseNameKey{Duplex}\@pdfduplex
7109 \ifx\@pdfpicktraybypdfsize\@empty
7110 \else
7111 /PickTrayByPDFSize \@pdfpicktraybypdfsize
7112 \fi
7113 \ifx\@pdfprintpagerange\@empty
7114 \else
7115 /PrintPageRange[\@pdfprintpagerange]%
7116 \fi
7117 \ifx\@pdfnumcopies\@empty
7118 \else
7119 /NumCopies \@pdfnumcopies
7120 \fi
7121 }%
7122 \pdfcatalog{%
7123 \ifx\Hy@temp\@empty
7124 \else
7125 /ViewerPreferences<<\Hy@temp>>%
7126 \fi
7127 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
7128 \ifx\@pdflang\@empty
7129 \else
7130 /Lang(\@pdflang)%
7131 \fi
7132 }%
7133 }

```

\PDF@FinishDoc

```

7134 \def\PDF@FinishDoc{%
7135 \Hy@UseMaketitleInfos
7136 \pdfinfo{%
7137 /Author(\@pdfauthor)%
7138 /Title(\@pdftitle)%
7139 /Subject(\@pdfsubject)%
7140 /Creator(\@pdfcreator)%
7141 \ifx\@pdfcreationdate\@empty
7142 \else
7143 /CreationDate(\@pdfcreationdate)%
7144 \fi
7145 \ifx\@pdfmoddate\@empty
7146 \else
7147 /ModDate(\@pdfmoddate)%
7148 \fi
7149 \ifx\@pdfproducer\relax
7150 \else
7151 /Producer(\@pdfproducer)%
7152 \fi
7153 /Keywords(\@pdfkeywords)%
7154 }%
7155 \Hy@DisableOption{pdfauthor}%
7156 \Hy@DisableOption{pdftitle}%
7157 \Hy@DisableOption{pdfsubject}%
7158 \Hy@DisableOption{pdfcreator}%
7159 \Hy@DisableOption{pdfcreationdate}%
7160 \Hy@DisableOption{pdfmoddate}%

```

```

7161 \Hy@DisableOption{pdfproducer}%
7162 \Hy@DisableOption{pdfkeywords}%
7163 }

```

`\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`.

```

7164 \def\hyper@pagetransition{%
7165   \ifx\@pdfpagetransition\relax
7166   \else
7167     \expandafter\Hy@RemoveTransPageAttr
7168     \the\pdfpageattr^^J/Trans{>>\END
7169     \ifx\@pdfpagetransition\@empty
7170     \else
7171       \edef\@processme{%
7172         \global\pdfpageattr{%
7173           \the\pdfpageattr
7174             ^^J/Trans << /S /\@pdfpagetransition\space >>%
7175         }%
7176       }%
7177       \@processme
7178     \fi
7179   \fi
7180 }

```

`\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.

```

7181 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
7182   \ifx\#2\%
7183     \global\pdfpageattr{#1}%
7184   \else
7185     \Hy@RemoveTransPageAttr#1#4\END
7186   \fi
7187 }

```

`\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`.

```

7188 \def\hyper@pageduration{%
7189   \ifx\@pdfpageduration\relax
7190   \else
7191     \expandafter\Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{} \END
7192     \ifx\@pdfpageduration\@empty
7193     \else
7194       \edef\@processme{%
7195         \global\pdfpageattr{%
7196           \the\pdfpageattr
7197             ^^J/Dur \@pdfpageduration\space
7198         }%
7199       }%
7200       \@processme
7201     \fi
7202   \fi
7203 }

```

`\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.

```
7204 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
7205   \ifx\#2\%
7206     \global\pdfpageattr{#1}%
7207   \else
7208     \Hy@RemoveDurPageAttr#1#4\END
7209   \fi
7210 }
```

`\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).

```
7211 \def\hyper@pagehidden{%
7212   \ifHy@useHidKey
7213     \expandafter\Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{ } \END
7214   \ifHy@pdfpagehidden
7215     \edef\@processme{%
7216       \global\pdfpageattr{%
7217         \the\pdfpageattr
7218         ^^J/Hid true % SPACE
7219       }%
7220     }%
7221     \@processme
7222   \fi
7223 \fi
7224 }
```

`\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.

```
7225 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
7226   \ifx\#2\%
7227     \global\pdfpageattr{#1}%
7228   \else
7229     \Hy@RemoveHidPageAttr#1#4\END
7230   \fi
7231 }
```

```
7232 \g@addto@macro\Hy@EveryPageHook{%
7233   \hyper@pagetransition
7234   \hyper@pageduration
7235   \hyper@pagehidden
7236 }

7237 \AtBeginDocument{%
7238   \ifHy@setpagesize
7239     \expandafter\@firstofone
7240   \else
7241     \expandafter\@gobble
7242   \fi
7243 }%
7244 \@ifclassloaded{seminar}{%
7245   \setlength{\pdfhorigin}{1truein}%
}
```

```

7246 \setlength{\pdfvorigin}{1truein}%
7247 \ifportrait
7248 \ifdim\paperwidth=\z@
7249 \else
7250 \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
7251 \fi
7252 \ifdim\paperheight=\z@
7253 \else
7254 \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
7255 \fi
7256 \else
7257 \ifdim\paperheight=\z@
7258 \else
7259 \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
7260 \fi
7261 \ifdim\paperwidth=\z@
7262 \else
7263 \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
7264 \fi
7265 \fi
7266 }{%
7267 \@ifundefined{stockwidth}{%
7268 \ifdim\paperwidth=\z@
7269 \else
7270 \setlength{\pdfpagewidth}{\paperwidth}%
7271 \fi
7272 \ifdim\paperheight=\z@
7273 \else
7274 \setlength{\pdfpageheight}{\paperheight}%
7275 \fi
7276 }{%
7277 \ifdim\stockwidth=\z@
7278 \else
7279 \setlength{\pdfpagewidth}{\stockwidth}%
7280 \fi
7281 \ifdim\stockheight=\z@
7282 \else
7283 \setlength{\pdfpageheight}{\stockheight}%
7284 \fi
7285 }%
7286 }%
7287 }%
7288 \Hy@DisableOption{setpagesize}%
7289 }
7290 \def\Acrobatmenu#1#2{%
7291 \Hy@Acrobatmenu{#1}{#2}{%
7292 \pdfstartlink
7293 attr{%
7294 \Hy@setpdfborder
7295 \ifx\@pdfhighlight\@empty
7296 \else
7297 /H\@pdfhighlight
7298 \fi
7299 \ifx\@menubordercolor\relax
7300 \else
7301 /C[\@menubordercolor]%
7302 \fi

```



```

7303      }%
7304      user{%
7305          /Subtype/Link%
7306          \ifHy@pdfa /F 4\fi
7307          /A<<%
7308          /S/Named/N/#1%
7309          >>%
7310      }%
7311      \relax
7312      \Hy@colorlink\@menucolor#2%
7313      \close@pdflink
7314  }%
7315 }
7316 </pdfTeX>
7317 <*hypertex>

```

46.3 hypertex

The HyperTeX 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 be 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.

```

7318 \providecommand*{\XR@ext}{dvi}
7319 \def\PDF@FinishDoc{}
7320 \def\PDF@SetupDoc{%
7321   \ifx\@baseurl\@empty
7322   \else
7323     \special{html:<base href="\@baseurl">}}%
7324   \fi

```

```

7325 }
7326 \def\hyper@anchor#1{%
7327   \Hy@SaveLastskip
7328   \begingroup
7329     \let\protect=\string
7330     \hyper@chars
7331     \special{html:<a name=%
7332       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
7333   \endgroup
7334   \Hy@activeanchortrue
7335   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
7336   \special{html:</a>}%
7337   \Hy@activeanchorfalse
7338   \Hy@RestoreLastskip
7339 }
7340 \def\hyper@anchorstart#1{%
7341   \Hy@SaveLastskip
7342   \begingroup
7343     \hyper@chars
7344     \special{html:<a name=%
7345       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
7346   \endgroup
7347   \Hy@activeanchortrue
7348 }
7349 \def\hyper@anchorend{%
7350   \special{html:</a>}%
7351   \Hy@activeanchorfalse
7352   \Hy@RestoreLastskip
7353 }
7354 \def\@urltype{url}
7355 \def\hyper@linkstart#1#2{%
7356   \expandafter\Hy@colorlink\csname @#1color\endcsname
7357   \def\Hy@tempa{#1}%
7358   \ifx\Hy@tempa\@urltype
7359     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
7360   \else
7361     \begingroup
7362       \hyper@chars
7363       \special{html:<a href=%
7364         \hyper@quote\# \HyperDestNameFilter{#2}\hyper@quote>}%
7365     \endgroup
7366   \fi
7367 }
7368 \def\hyper@linkend{%
7369   \special{html:</a>}%
7370   \Hy@endcolorlink
7371 }
7372 \def\hyper@linkfile#1#2#3{%
7373   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
7374 }
7375 \def\hyper@linkurl#1#2{%
7376   \leavevmode
7377   \ifHy@raiselinks
7378     \setbox\@tempboxa=\color@hbox #1\color@endbox

```

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.

```

7379 \@linkdim\dp\@tempboxa
7380 \lower\@linkdim\hbox{%
7381 \hyper@chars
7382 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
7383 }%
7384 \Hy@colorlink\@urlcolor#1%
7385 \@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).

```

7386 \advance\@linkdim by -6.5\p@
7387 \raise\@linkdim\hbox{\special{html:</a>}}%
7388 \Hy@endcolorlink
7389 \else
7390 \begingroup
7391 \hyper@chars
7392 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
7393 \Hy@colorlink\@urlcolor#1%
7394 \special{html:</a>}}%
7395 \Hy@endcolorlink
7396 \endgroup
7397 \fi
7398 }

```

Very poor implementation of `\hyper@link` without considering #1.

```

7399 \def\hyper@link#1#2#3{%
7400 \hyper@linkurl{#3}{\#HyperDestNameFilter{#2}}%
7401 }

7402 \def\hyper@image#1#2{%
7403 \begingroup
7404 \hyper@chars
7405 \special{html:<img src=\hyper@quote#1\hyper@quote>}}%
7406 \endgroup
7407 }
7408 </hypertex>
7409 <*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.

```

7410 \providecommand*\XR@ext{dvi}
7411 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
7412 \def\hyper@anchor#1{%
7413 \Hy@SaveLastskip
7414 \begingroup
7415 \let\protect=\string

```

```

7416 \special{mark: #1}%
7417 \endgroup
7418 \Hy@activeanchortrue
7419 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
7420 \Hy@activeanchorfalse
7421 \Hy@RestoreLastskip
7422 }
7423 \def\hyper@anchorstart#1{%
7424 \Hy@SaveLastskip
7425 \special{mark: #1}%
7426 \Hy@activeanchortrue
7427 }
7428 \def\hyper@anchorend{%
7429 \Hy@activeanchorfalse
7430 \Hy@RestoreLastskip
7431 }
7432 \def\hyper@linkstart#1#2{%
7433 \expandafter\Hy@colorlink\csname @#1color\endcsname
7434 \special{button: %
7435 10000000 %
7436 \number\baselineskip\space
7437 #2%
7438 }%
7439 }
7440 \def\hyper@linkend{%
7441 \Hy@endcolorlink
7442 }
7443 \def\hyper@link#1#2#3{%
7444 \setbox\@tempboxa=\color@hbox #3\color@endbox
7445 \leavevmode
7446 \ifHy@raiselinks
7447 \@linkdim\dp\@tempboxa
7448 \lower\@linkdim\hbox{%
7449 \special{button: %
7450 \number\wd\@tempboxa\space
7451 \number\ht\@tempboxa\space
7452 #2%
7453 }%
7454 \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
7455 \Hy@endcolorlink
7456 }%
7457 \@linkdim\ht\@tempboxa
7458 \advance\@linkdim by -6.5\p@
7459 \raise\@linkdim\hbox{%}%
7460 \else
7461 \special{button: %
7462 \number\wd\@tempboxa\space
7463 \number\ht\@tempboxa\space
7464 #2%
7465 }%
7466 \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
7467 \Hy@endcolorlink
7468 \fi
7469 }
7470 \def\hyper@linkurl#1#2{%
7471 \begingroup
7472 \hyper@chars

```

```

7473 \leavevmode
7474 \setbox\@tempboxa=\color@hbox #1\color@endbox
7475 \ifHy@raiselinks
7476 \@linkdim\dp\@tempboxa
7477 \lower\@linkdim\hbox{%
7478 \special{button: %
7479 \number\wd\@tempboxa\space
7480 \number\ht\@tempboxa\space
7481 launch: \wwwbrowser\space
7482 #2%
7483 }%
7484 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
7485 }%
7486 \@linkdim\ht\@tempboxa
7487 \advance\@linkdim by -6.5\p@
7488 \raise\@linkdim\hbox{}}%
7489 \else
7490 \special{button: %
7491 \number\wd\@tempboxa\space
7492 \number\ht\@tempboxa\space
7493 launch: \wwwbrowser\space
7494 #2%
7495 }%
7496 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
7497 \fi
7498 \endgroup
7499 }
7500 \def\hyper@linkfile#1#2#3{%
7501 \begingroup
7502 \hyper@chars
7503 \leavevmode
7504 \setbox\@tempboxa=\color@hbox #1\color@endbox
7505 \ifHy@raiselinks
7506 \@linkdim\dp\@tempboxa
7507 \lower\@linkdim\hbox{%
7508 \special{button: %
7509 \number\wd\@tempboxa\space
7510 \number\ht\@tempboxa\space
7511 #3,%
7512 file: #2%
7513 }%
7514 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
7515 }%
7516 \@linkdim\ht\@tempboxa
7517 \advance\@linkdim by -6.5\p@
7518 \raise\@linkdim\hbox{}}%
7519 \else
7520 \special{button: %
7521 \number\wd\@tempboxa\space
7522 \number\ht\@tempboxa\space
7523 #3,%
7524 file: #2%
7525 }%
7526 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
7527 \fi
7528 \endgroup
7529 }

```

```

7530 \ifx\@pdfproducer\relax
7531   \def\@pdfproducer{dviwindo + Distiller}%
7532 \fi
7533 \def\PDF@FinishDoc{%
7534   \Hy@UseMaketitleInfos
7535   \special{PDF: Keywords \@pdfkeywords}%
7536   \special{PDF: Title \@pdftitle}%
7537   \special{PDF: Creator \@pdfcreator}%
7538   \ifx\@pdfcreationdate\@empty
7539   \else
7540     \special{PDF: CreationDate \@pdfcreationdate}%
7541   \fi
7542   \ifx\@pdfmoddate\@empty
7543   \else
7544     \special{PDF: ModDate \@pdfmoddate}%
7545   \fi
7546   \special{PDF: Author \@pdfauthor}%
7547   \ifx\@pdfproducer\relax
7548   \else
7549     \special{PDF: Producer \@pdfproducer}%
7550   \fi
7551   \special{PDF: Subject \@pdfsubject}%
7552   \Hy@DisableOption{pdfauthor}%
7553   \Hy@DisableOption{pdftitle}%
7554   \Hy@DisableOption{pdfsubject}%
7555   \Hy@DisableOption{pdfcreator}%
7556   \Hy@DisableOption{pdfcreationdate}%
7557   \Hy@DisableOption{pdfmoddate}%
7558   \Hy@DisableOption{pdfproducer}%
7559   \Hy@DisableOption{pdfkeywords}%
7560 }
7561 \def\PDF@SetupDoc{%
7562   \ifx\@baseurl\@empty
7563   \else
7564     \special{PDF: Base \@baseurl}%
7565   \fi
7566   \ifx\@pdfpagescrop\@empty\else
7567     \special{PDF: BBox \@pdfpagescrop}%
7568   \fi
7569   \def\Hy@temp{}%
7570   \ifx\@pdfstartpage\@empty
7571   \else
7572     \ifx\@pdfstartview\@empty
7573     \else
7574       \edef\Hy@temp{%
7575         ,Page=\@pdfstartpage
7576         ,View=\@pdfstartview
7577       }%
7578     \fi
7579   \fi
7580   \edef\Hy@temp{%
7581     \noexpand\pdfmark{%
7582       pdfmark=/DOCVIEW,%
7583       PageMode=/\@pdfpagemode
7584     }\Hy@temp
7585   }%
7586 }%

```

```

7587 \Hy@temp
7588 \ifx\@pdfpagescrop\@empty
7589 \else
7590 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
7591 \fi
7592 \edef\Hy@temp{%
7593 \ifHy@toolbar\else /HideToolbar true\fi
7594 \ifHy@menubar\else /HideMenubar true\fi
7595 \ifHy>windowui\else /HideWindowUI true\fi
7596 \ifHy@fitwindow /FitWindow true\fi
7597 \ifHy@centerwindow /CenterWindow true\fi
7598 \ifHy@displaydoctitle /DisplayDocTitle true\fi
7599 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
7600 \Hy@UseNameKey{Direction}\@pdfdirection
7601 \Hy@UseNameKey{ViewArea}\@pdfviewarea
7602 \Hy@UseNameKey{ViewClip}\@pdfviewclip
7603 \Hy@UseNameKey{PrintArea}\@pdfprintarea
7604 \Hy@UseNameKey{PrintClip}\@pdfprintclip
7605 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
7606 \Hy@UseNameKey{Duplex}\@pdfduplex
7607 \ifx\@pdfpicktraybypdfsize\@empty
7608 \else
7609 /PickTrayByPDFSize \@pdfpicktraybypdfsize
7610 \fi
7611 \ifx\@pdfprintpagerange\@empty
7612 \else
7613 /PrintPageRange[\@pdfprintpagerange]%
7614 \fi
7615 \ifx\@pdfnumcopies\@empty
7616 \else
7617 /NumCopies \@pdfnumcopies
7618 \fi
7619 }%
7620 \pdfmark{pdfmark=/PUT,%
7621 Raw={%
7622 \string{Catalog\string}<<%
7623 \ifx\Hy@temp\@empty
7624 \else
7625 /ViewerPreferences<<\Hy@temp>>%
7626 \fi
7627 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
7628 \ifx\@pdflang\@empty
7629 \else
7630 /Lang(\@pdflang)%
7631 \fi
7632 >>%
7633 }%
7634 }%
7635 }
7636 </dviwindo>
7637 < *dvipdfm>

```

46.5 dvipdfm dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```

7638 \providecommand*{\XR@ext}{pdf}
7639 \Hy@setbreaklinks{true}

```

```

7640 \newsavebox{\pdfm@box}
7641 \def\@pdfm@mark#1{\special{pdf:#1}}
7642 \def\@pdfm@dest#1{%
7643   \Hy@SaveLastskip
7644   \beginngroup
7645     \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
7646     \def\x{XYZ}%
7647     \ifx\x\@pdfview
7648       \def\x{XYZ @xpos @ypos null}%
7649     \else
7650       \def\x{FitH}%
7651       \ifx\x\@pdfview
7652         \def\x{FitH @ypos}%
7653       \else
7654         \def\x{FitBH}%
7655         \ifx\x\@pdfview
7656           \def\x{FitBH @ypos}%
7657         \else
7658           \def\x{FitV}%
7659           \ifx\x\@pdfview
7660             \def\x{FitV @xpos}%
7661           \else
7662             \def\x{FitBV}%
7663             \ifx\x\@pdfview
7664               \def\x{FitBV @xpos}%
7665             \else
7666               \def\x{Fit}%
7667               \ifx\x\@pdfview
7668                 \let\x\@pdfview
7669               \else
7670                 \def\x{FitB}%
7671                 \ifx\x\@pdfview
7672                   \let\x\@pdfview
7673                 \else
7674                   \def\x{FitR}%
7675                   \ifx\x\@pdfview
7676                     \Hy@Warning{'pdfview=FitR' is not supported}%
7677                     \def\x{XYZ @xpos @ypos null}%
7678                   \else
7679                     \@onelevel@sanitize\@pdfview
7680                     \Hy@Warning{Unknown value '\@pdfview' for pdfview}%
7681                     \def\x{XYZ @xpos @ypos null}%
7682                   \fi
7683                 \fi
7684               \fi
7685             \fi
7686           \fi
7687         \fi
7688       \fi
7689     \fi
7690     \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
7691   \endgroup
7692   \Hy@RestoreLastskip
7693 }
7694 \providecommand*\@pdfview{XYZ}
7695 \providecommand*\@pdfborder{0 0 1}
7696 \providecommand*\@pdfborderstyle{}

```



```

7697 \def\hyper@anchor#1{%
7698   \@pdfm@dest{#1}%
7699 }
7700 \def\hyper@anchorstart#1{%
7701   \Hy@activeanchortrue
7702   \@pdfm@dest{#1}%
7703 }
7704 \def\hyper@anchorend{%
7705   \Hy@activeanchorfalse
7706 }

7707 \ifHy@ocgcolorlinks
7708   \def\OBJ@OCG@view{@OCG@view}%
7709   \@pdfm@mark{%
7710     obj \OBJ@OCG@view <<%
7711       /Type/OCG%
7712       /Name(View)%
7713       /Usage<<%
7714         /Print<<%
7715         /PrintState/OFF%
7716       >>%
7717       /View<<%
7718       /ViewState/ON%
7719     >>%
7720   >>%
7721   >>%
7722   }%
7723   \@pdfm@mark{close \OBJ@OCG@view}%
7724   \def\OBJ@OCG@print{@OCG@print}%
7725   \@pdfm@mark{%
7726     obj \OBJ@OCG@print <<%
7727       /Type/OCG%
7728       /Name(Print)%
7729       /Usage<<%
7730         /Print<<%
7731         /PrintState/ON%
7732       >>%
7733       /View<<%
7734       /ViewState/OFF%
7735     >>%
7736   >>%
7737   >>%
7738   }%
7739   \@pdfm@mark{close \OBJ@OCG@print}%
7740   \def\OBJ@OCGs{@OCGs}%
7741   \@pdfm@mark{%
7742     obj \OBJ@OCGs [%
7743       \OBJ@OCG@view\space\OBJ@OCG@print
7744     ]%
7745   }%
7746   \@pdfm@mark{close \OBJ@OCGs}%
7747   \@pdfm@mark{%
7748     put @catalog <<%
7749       /OCProperties<<%
7750         /OCGs \OBJ@OCGs
7751       /D<<%
7752         /OFF[\OBJ@OCG@print]%
7753       /AS[%

```

```

7754         <<%
7755             /Event/View%
7756             /OCGs \OBJ@OCGs
7757             /Category[/View]%
7758         >>%
7759         <<%
7760             /Event/Print%
7761             /OCGs \OBJ@OCGs
7762             /Category[/Print]%
7763         >>%
7764         <<%
7765             /Event/Export%
7766             /OCGs \OBJ@OCGs
7767             /Category[/Print]%
7768         >>%
7769     ]%
7770 >>%
7771 >>%
7772 >>%
7773 }%
7774 \@pdfm@mark{%
7775     put @resources <<%
7776         /Properties<<%
7777             /OCView \OBJ@OCG@view
7778             /OCPrint \OBJ@OCG@print
7779         >>%
7780     >>%
7781 }%
7782 \AtBeginDocument{%
7783     \def\Hy@colorlink#1{%
7784         \begingroup
7785             \ifHy@ocgcolorlinks
7786                 \def\Hy@ocgcolor{#1}%
7787                 \setbox0=\color@hbox
7788             \else
7789                 \HyColor@UseColor#1%
7790             \fi
7791         }%
7792         \def\Hy@endcolorlink{%
7793             \ifHy@ocgcolorlinks
7794                 \color@endbox
7795                 \mbox{%
7796                     \@pdfm@mark{content /OC/OCPrint BDC}%
7797                     \rlap{\copy0}%
7798                     \@pdfm@mark{content EMC/OC/OCView BDC}%
7799                 \begingroup
7800                     \expandafter\HyColor@UseColor\Hy@ocgcolor
7801                     \box0 %
7802                 \endgroup
7803                 \@pdfm@mark{content EMC}%
7804             }%
7805             \fi
7806         \endgroup
7807     }%
7808 }%
7809 \else
7810     \Hy@DisableOption{ocgcolorlinks}%

```

```

7811 \fi
7812 \def\Hy@undefinedname{UNDEFINED}
7813 \def\hyper@linkstart#1#2{%
7814   \protected@edef\Hy@testname{#2}%
7815   \ifx\Hy@testname\empty
7816     \let\Hy@testname\Hy@undefinedname
7817   \else
7818     \Hy@pstringdef\Hy@testname{%
7819       \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
7820     }%
7821   \fi
7822   \@pdfm@mark{%
7823     bann<<%
7824       /Type/Annot%
7825       /Subtype/Link%
7826       \ifHy@pdfa /F 4\fi
7827       \Hy@setpdfborder
7828       \expandafter\ifx\csname @#1bordercolor\endcsname\relax
7829       \else
7830         /C[\csname @#1bordercolor\endcsname]%
7831       \fi
7832       /A<<%
7833       /S/GoTo%
7834       /D(\Hy@testname)%
7835       >>%
7836     >>%
7837   }%
7838   \expandafter\Hy@colorlink\csname @#1color\endcsname
7839 }
7840 \def\hyper@linkend{%
7841   \Hy@endcolorlink
7842   \@pdfm@mark{eann}%
7843 }
7844 \def\hyper@link#1#2#3{%
7845   \hyper@linkstart{#1}{#2}#3\hyper@linkend
7846 }
7847 \def\hyper@linkfile#1#2#3{%
7848   \Hy@pstringdef\Hy@pstringF{#2}%
7849   \Hy@pstringdef\Hy@pstringD{#3}%
7850   \leavevmode
7851   \@pdfm@mark{%
7852     bann<<%
7853       /Type/Annot%
7854       /Subtype/Link%
7855       \ifHy@pdfa /F 4\fi
7856       \Hy@setpdfborder
7857       \ifx\@filebordercolor\relax
7858       \else
7859         /C[\@filebordercolor]%
7860       \fi
7861       /A<<%
7862       /S/GoToR%
7863       /F(\Hy@pstringF)%
7864       /D\ifx\#3\[\[0 \@pdfstartview\else(\Hy@pstringD)\fi
7865       \Hy@SetNewWindow
7866       >>%
7867     >>%

```

```

7868 }%
7869 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
7870 \@pdfm@mark{eann}%
7871 }
7872 \def\hyper@linkurl#1#2{%
7873 \Hy@pstringdef\Hy@pstringURI{#2}%
7874 \leavevmode
7875 \@pdfm@mark{%
7876   bann<<%
7877     /Type/Annot%
7878     /Subtype/Link%
7879     \ifHy@pdfa /F 4\fi
7880     \Hy@setpdfborder
7881     \ifx\@urlbordercolor\relax
7882     \else
7883       /C[\@urlbordercolor]%
7884     \fi
7885     /A<<%
7886     /S/URI%
7887     /URI(\Hy@pstringURI)%
7888   >>%
7889   >>%
7890 }%
7891 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
7892 \@pdfm@mark{eann}%
7893 }
7894 \def\Acrobatmenu#1#2{%
7895 \Hy@Acrobatmenu{#1}{#2}{%
7896   \@pdfm@mark{%
7897     bann<<%
7898       /Type/Annot%
7899       /Subtype/Link%
7900       \ifHy@pdfa /F 4\fi
7901       /A<<%
7902       /S/Named%
7903       /N/#1%
7904     >>%
7905     \Hy@setpdfborder
7906     \ifx\@menubordercolor\relax
7907     \relax
7908     /C[\@menubordercolor]%
7909     \fi
7910   >>%
7911   }%
7912   \Hy@colorlink\@menucolor#2\Hy@endcolorlink
7913   \@pdfm@mark{eann}%
7914 }%
7915 }
7916 \ifx\@pdfproducer\relax
7917 \def\@pdfproducer{dvipdfm}%

```

Detect XeTeX. However, but xdvipdfmx will overwrite it in the final PDF file.

```

7918 \begingroup\expandafter\expandafter\expandafter\endgroup
7919 \expandafter\ifx\csname XeTeXversion\endcsname\relax
7920 \else
7921 \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
7922 \fi
7923 \fi

```

```

7924 \def\PDF@FinishDoc{%
7925   \Hy@UseMaketitleInfos
7926   \@pdfm@mark{%
7927     docinfo<<%
7928       /Title(\@pdftitle)%
7929       /Subject(\@pdfsubject)%
7930       /Creator(\@pdfcreator)%
7931       \ifx\@pdfcreationdate\@empty
7932       \else
7933         /CreationDate(\@pdfcreationdate)%
7934       \fi
7935       \ifx\@pdfmoddate\@empty
7936       \else
7937         /ModDate(\@pdfmoddate)%
7938       \fi
7939       /Author(\@pdfauthor)%
7940       \ifx\@pdfproducer\relax
7941       \else
7942         /Producer(\@pdfproducer)%
7943       \fi
7944       /Keywords(\@pdfkeywords)%
7945     >>%
7946   }%
7947   \Hy@DisableOption{pdfauthor}%
7948   \Hy@DisableOption{pdftitle}%
7949   \Hy@DisableOption{pdfsubject}%
7950   \Hy@DisableOption{pdfcreator}%
7951   \Hy@DisableOption{pdfcreationdate}%
7952   \Hy@DisableOption{pdfmoddate}%
7953   \Hy@DisableOption{pdfproducer}%
7954   \Hy@DisableOption{pdfkeywords}%
7955 }

7956 \def\PDF@SetupDoc{%
7957   \edef\Hy@temp{%
7958     \ifHy@toolbar\else /HideToolbar true\fi
7959     \ifHy@menubar\else /HideMenubar true\fi
7960     \ifHy>windowui\else /HideWindowUI true\fi
7961     \ifHy@fitwindow /FitWindow true\fi
7962     \ifHy@centerwindow /CenterWindow true\fi
7963     \ifHy@displaydoctitle /DisplayDocTitle true\fi
7964     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
7965     \Hy@UseNameKey{Direction}\@pdfdirection
7966     \Hy@UseNameKey{ViewArea}\@pdfviewarea
7967     \Hy@UseNameKey{ViewClip}\@pdfviewclip
7968     \Hy@UseNameKey{PrintArea}\@pdfprintarea
7969     \Hy@UseNameKey{PrintClip}\@pdfprintclip
7970     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
7971     \Hy@UseNameKey{Duplex}\@pdfduplex
7972     \ifx\@pdfpicktraybypdfsize\@empty
7973     \else
7974       /PickTrayByPDFSize \@pdfpicktraybypdfsize
7975     \fi
7976     \ifx\@pdfprintpagerange\@empty
7977     \else
7978       /PrintPageRange[\@pdfprintpagerange]%
7979     \fi
7980     \ifx\@pdfnumcopies\@empty

```

```

7981 \else
7982 /NumCopies \@pdfnumcopies
7983 \fi
7984 }%
7985 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
7986 \@pdfm@mark{%
7987 docview<<%
7988 \ifx\@pdfstartpage\@empty
7989 \else
7990 \ifx\@pdfstartview\@empty
7991 \else
7992 /OpenAction[@page\@pdfstartpage\@pdfstartview]%
7993 \fi
7994 \fi
7995 \ifx\@baseurl\@empty
7996 \else
7997 /URI<</Base(\Hy@pstringB)>>%
7998 \fi
7999 /PageMode/\@pdfpagemode
8000 \ifx\Hy@temp\@empty
8001 \else
8002 /ViewerPreferences<<\Hy@temp>>%
8003 \fi
8004 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
8005 \ifx\@pdflang\@empty
8006 \else
8007 /Lang(\@pdflang)%
8008 \fi
8009 >>%
8010 }%
8011 \ifx\@pdfpagescrop\@empty
8012 \else
8013 \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%
8014 \fi
8015 }

8016 \AtBeginShipoutFirst{%
8017 \ifx\special@paper\@empty\else
8018 \ifHy@setpagesize
8019 \special{papersize=\special@paper}%
8020 \fi
8021 \fi
8022 \Hy@DisableOption{setpagesize}%
8023 }
8024 </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.

```

8025 <*vtexhtml>
8026 \providecommand*\XR@ext{.htm}
8027 \RequirePackage{vtexhtml}
8028 \newif\if@Localurl
8029 \def\PDF@FinishDoc{}
8030 \def\PDF@SetupDoc{%
8031 \ifx\@baseurl\@empty

```

```

8032 \else
8033 \special{!direct <base href="\@baseurl">}%
8034 \fi
8035 }
8036 \def\@urltype{url}
8037 \def\hyper@link#1#2#3{%
8038 \leavevmode
8039 \special{!direct <a href=%
8040 \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
8041 #3%
8042 \special{!direct </a>}%
8043 }
8044 \def\hyper@linkurl#1#2{%
8045 \begingroup
8046 \hyper@chars
8047 \leavevmode
8048 \MathBSuppress=1\relax
8049 \special{!direct <a href=%
8050 \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
8051 #1%
8052 \MathBSuppress=0\relax
8053 \special{!direct </a>}%
8054 \endgroup
8055 }
8056 \def\hyper@linkfile#1#2#3{%
8057 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\\#3\fi}%
8058 }
8059 \def\hyper@linkstart#1#2{%
8060 \def\Hy@tempa{#1}\ifx\Hy@tempa\@urltype
8061 \@Localurltrue
8062 \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
8063 \else
8064 \@Localurlfalse
8065 \begingroup
8066 \hyper@chars
8067 \special{!aref \HyperDestNameFilter{#2}}%
8068 \endgroup
8069 \fi
8070 }
8071 \def\hyper@linkend{%
8072 \if@Localurl
8073 \special{!endaref}%
8074 \else
8075 \special{!direct </a>}%
8076 \fi
8077 }
8078 \def\hyper@anchorstart#1{%
8079 \Hy@SaveLastskip
8080 \begingroup
8081 \hyper@chars
8082 \special{!aname #1}%
8083 \special{!direct <a name=%
8084 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8085 \endgroup
8086 \Hy@activeanchortrue
8087 }
8088 \def\hyper@anchorend{%

```

```

8089 \special{!direct </a>}%
8090 \Hy@activeanchorfalse
8091 \Hy@RestoreLastskip
8092 }
8093 \def\hyper@anchor#1{%
8094 \Hy@SaveLastskip
8095 \begingroup
8096 \let\protect=\string
8097 \hyper@chars
8098 \leavevmode
8099 \special{!aname #1}%
8100 \special{!direct <a name=%
8101 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
8102 \endgroup
8103 \Hy@activeanchortrue
8104 \bgroup\anchor@spot\egroup
8105 \special{!direct </a>}%
8106 \Hy@activeanchorfalse
8107 \Hy@RestoreLastskip
8108 }
8109 \def\@Form[#1]{\typeout{Sorry, TeXpider does not yet support FORMs}}
8110 \def\@endForm{}
8111 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
8112 \typeout{Sorry, TeXpider does not yet support FORM gauges}%
8113 }
8114 \def\@TextField[#1]#2{% parameters, label
8115 \typeout{Sorry, TeXpider does not yet support FORM text fields}%
8116 }
8117 \def\@CheckBox[#1]#2{% parameters, label
8118 \typeout{Sorry, TeXpider does not yet support FORM checkboxes}%
8119 }
8120 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
8121 \typeout{Sorry, TeXpider does not yet support FORM choice menus}%
8122 }
8123 \def\@PushButton[#1]#2{% parameters, label
8124 \typeout{Sorry, TeXpider does not yet support FORM pushbuttons}%
8125 }
8126 \def\@Reset[#1]#2{%
8127 \typeout{Sorry, TeXpider does not yet support FORMs}%
8128 }
8129 \def\@Submit[#1]#2{%
8130 \typeout{Sorry, TeXpider does not yet support FORMs}%
8131 }
8132 </vtexhtml>
8133 <*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.

```

8134 \ifx\mediaheight\@undefined
8135 \else
8136 \ifx\mediaheight\relax
8137 \else
8138 \ifHy@setpagesize
8139 \providecommand*{\VTeXInitMediaSize}{%
8140 \@ifundefined{stockwidth}{%
8141 \ifdim\paperheight>0pt %

```



```

8142         \setlength\mediaheight\paperheight
8143     \fi
8144     \ifdim\paperheight>0pt %
8145         \setlength\mediawidth\paperwidth
8146     \fi
8147 }{%
8148     \ifdim\stockheight>0pt %
8149         \setlength\mediaheight\stockheight
8150     \fi
8151     \ifdim\stockwidth>0pt %
8152         \setlength\mediawidth\stockwidth
8153     \fi
8154 }%
8155 }%
8156 \AtBeginDocument{\VTeXInitMediaSize}%
8157 \fi
8158 \Hy@DisableOption{setpagesize}%
8159 \fi
8160 \fi

```

Older versions of VTeX require xyz in lower case.

```

8161 \providecommand*\@pdfview{xyz}
8162 \providecommand*\@pdfborder{0 0 1}
8163 \providecommand*\@pdfborderstyle{}
8164 \let\CurrentBorderColor\@linkbordercolor
8165 \def\hyper@anchor#1{%
8166     \Hy@SaveLastskip
8167     \begingroup
8168         \let\protect=\string
8169         \hyper@chars
8170         \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
8171     \endgroup
8172     \Hy@activeanchortrue
8173     \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
8174     \Hy@activeanchorfalse
8175     \Hy@RestoreLastskip
8176 }
8177 \def\hyper@anchorstart#1{%
8178     \Hy@SaveLastskip
8179     \begingroup
8180         \hyper@chars
8181         \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
8182     \endgroup
8183     \Hy@activeanchortrue
8184 }
8185 \def\hyper@anchorend{%
8186     \Hy@activeanchorfalse
8187     \Hy@RestoreLastskip
8188 }
8189 \def\@urltype{url}
8190 \def\Hy@undefinedname{UNDEFINED}
8191 \def\hyper@linkstart#1#2{%
8192     \Hy@pstringdef\Hy@pstringURI{#2}%
8193     \expandafter\Hy@colorlink\csname @#1color\endcsname
8194     \@ifundefined{#@#1bordercolor}{%
8195         \let\CurrentBorderColor\relax
8196     }{%
8197         \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%

```

```

8198 }%
8199 \def\Hy@tempa{#1}%
8200 \ifx\Hy@tempa\@urlltype
8201   \special{!%
8202     aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
8203     a=<%
8204       \ifHy@pdfa /F 4\fi
8205       \Hy@setpdfborder
8206       \ifx\CurrentBorderColor\relax
8207       \else
8208         /C [\CurrentBorderColor]%
8209       \fi
8210     >%
8211   }%
8212 \else
8213   \protected@edef\Hy@testname{#2}%
8214   \ifx\Hy@testname\@empty
8215     \let\Hy@testname\Hy@undefinedname
8216   \fi
8217   \special{!%
8218     aref \expandafter\HyperDestNameFilter
8219         \expandafter{\Hy@testname};;%
8220     a=<%
8221       \ifHy@pdfa /F 4\fi
8222       \Hy@setpdfborder
8223       \ifx\CurrentBorderColor\relax
8224       \else
8225         /C [\CurrentBorderColor]%
8226       \fi
8227     >%
8228   }%
8229 \fi
8230 }
8231 \def\hyper@linkend{%
8232   \special{!endaref}%
8233   \Hy@endcolorlink
8234 }
8235 \def\hyper@linkfile#1#2#3{%
8236   \leavevmode
8237   \special{!%
8238     aref <%
8239       \ifnum\Hy@VTeXversion>753 \ifHy@newwindow n\fi\fi
8240     f=#2>#3;%
8241     a=<%
8242       \ifHy@pdfa /F 4\fi
8243       \Hy@setpdfborder
8244       \ifx\@filebordercolor\relax
8245       \else
8246         /C [\@filebordercolor]%
8247       \fi
8248     >%
8249   }%
8250   \Hy@colorlink\@filecolor#1\Hy@endcolorlink
8251   \special{!endaref}%
8252 }
8253 \def\hyper@linkurl#1#2{%
8254   \begingroup

```

```

8255 \Hy@pstringdef\Hy@pstringURI{#2}%
8256 \hyper@chars
8257 \leavevmode
8258 \special{!%
8259   aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
8260   a=<%
8261     \ifHy@pdfa /F 4\fi
8262     \Hy@setpdfborder
8263     \ifx\@urlbordercolor\relax
8264     \else
8265       /C [\@urlbordercolor]%
8266     \fi
8267   >%
8268 }%
8269 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
8270 \special{!endaref}%
8271 \endgroup
8272 }
8273 \def\hyper@link#1#2#3{%
8274   \@ifundefined{#@#1bordercolor}{%
8275     \let\CurrentBorderColor\relax
8276   }{%
8277     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8278   }%
8279   \leavevmode
8280   \protected@edef\Hy@testname{#2}%
8281   \ifx\Hy@testname\@empty
8282     \let\Hy@testname\Hy@undefinedname
8283   \fi
8284   \special{!%
8285     aref \expandafter\HyperDestNameFilter
8286         \expandafter{\Hy@testname};%
8287     a=<%
8288       \ifHy@pdfa /F 4\fi
8289       \Hy@setpdfborder
8290       \ifx\CurrentBorderColor\relax
8291       \else
8292         /C [\CurrentBorderColor]%
8293       \fi
8294     >%
8295   }%
8296   \expandafter\Hy@colorlink\csname @#1color\endcsname#3\Hy@endcolorlink
8297   \special{!endaref}%
8298 }
8299 \def\hyper@image#1#2{%
8300   \hyper@linkurl{#2}{#1}%
8301 }
8302 \def\@hyper@launch run:#1\#2#3{%
8303   \Hy@pstringdef\Hy@pstringF{#1}%
8304   \Hy@pstringdef\Hy@pstringP{#3}%
8305   \leavevmode
8306   \special{!aref %
8307     <u=%
8308       /Type/Action%
8309       /S/Launch%
8310       /F(\Hy@pstringF)%
8311       \Hy@SetNewWindow

```

```

8312 \ifx\#3\else /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>\fi%
8313 >;%
8314 a=<%
8315 \ifHy@pdfa /F 4\fi
8316 \Hy@setpdfborder
8317 \ifx\@runbordercolor\relax
8318 \else
8319 /C[\@runbordercolor]%
8320 \fi
8321 >%
8322 }%
8323 \Hy@colorlink\@runcolor#2\Hy@endcolorlink
8324 \special{!endaref}%
8325 }
8326 \def\Acrobatmenu#1#2{%
8327 \Hy@Acrobatmenu{#1}{#2}{%
8328 \special{!%
8329 aref <u=/S /Named /N /#1>;%
8330 a=<%
8331 \ifHy@pdfa /F 4\fi
8332 \Hy@setpdfborder
8333 \ifx\@menubordercolor\relax
8334 \else
8335 /C[\@menubordercolor]%
8336 \fi
8337 >%
8338 }%
8339 \Hy@colorlink\@menucolor#2\Hy@endcolorlink
8340 \special{!endaref}%
8341 }%
8342 }

```

The following code (transition effects) is made by Alex Kostin.

The code below makes sense for \TeX 7.02 or later.

Please never use $\text{\@ifundefined{VTeXversion}}{\dots}\{\dots\}$ globally.

```

8343 \ifnum\Hy@VTeXversion<702 %
8344 \else
8345 \def\hyper@pagetransition{%
8346 \ifx\@pdfpagetransition\relax
8347 \else
8348 \ifx\@pdfpagetransition\@empty

```

Standard incantation.

1. Does an old entry have to be deleted? 2. If 1=yes, how to delete?

```

8349 \else
8350 \hvtex@parse@trans\@pdfpagetransition
8351 \fi
8352 \fi
8353 }%

```

I have to write an “honest” parser to convert raw PDF code into \TeX \special .
(AVK)

Syntax of \TeX $\text{\special{!trans <transition_effect>}}$:

```

<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:

```

8354 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
8355 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
8356 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
8357 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
8358 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
8359 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
8360 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%

```

Optional parameters:

```

8361 \def\hvtex@par@dimension{/Dm}%
8362 \def\hvtex@par@direction{/Di}%
8363 \def\hvtex@par@duration{/D}%
8364 \def\hvtex@par@motion{/M}%

```

Tokenizer:

```

8365 \def\hvtex@gettoken{\expandafter\hvtex@gettoken@\hvtex@buffer\@nil}%

```

Notice that tokens in the input buffer must be space delimited.

```

8366 \def\hvtex@gettoken#1 #2\@nil{%
8367   \edef\hvtex@token{#1}%
8368   \edef\hvtex@buffer{#2}%
8369 }%
8370 \def\hvtex@parse@trans#1{%

```

Initializing code:

```

8371 \let\hvtex@trans@code\@empty
8372 \let\hvtex@param@dimension\@empty
8373 \let\hvtex@param@direction\@empty
8374 \let\hvtex@param@duration\@empty
8375 \let\hvtex@param@motion\@empty
8376 \edef\hvtex@buffer{#1\space}%

```

First token is the PDF transition name without escape.

```

8377 \hvtex@gettoken
8378 \ifx\hvtex@token\@empty

```

Leading space(s)?

```

8379 \ifx\hvtex@buffer\@empty

```

The buffer is empty, nothing to do.

```

8380 \else
8381 \hvtex@gettoken
8382 \fi
8383 \fi
8384 \csname hvtex@trans@effect@\hvtex@token\endcsname

```

Now is time to parse optional parameters.

```

8385 \hvtex@trans@params
8386 }%

```

Reentrant macro to parse optional parameters.

```

8387 \def\hvtex@trans@params{%
8388   \ifx\hvtex@buffer\@empty
8389   \else
8390     \hvtex@gettoken
8391     \let\hvtex@trans@par\hvtex@token
8392     \ifx\hvtex@buffer\@empty
8393     \else
8394       \hvtex@gettoken
8395       \ifx\hvtex@trans@par\hvtex@par@duration

```

/D is the effect duration in seconds. V_TE_X special takes it in milliseconds.

```

8396       \let\hvtex@param@duration\hvtex@token
8397       \else \ifx\hvtex@trans@par\hvtex@par@motion

```

/M can be either /I or /O

```

8398       \expandafter\edef\expandafter\hvtex@param@motion
8399       \expandafter{\expandafter\@gobble\hvtex@token}%
8400       \else \ifx\hvtex@trans@par\hvtex@par@dimension

```

/Dm can be either /H or /V

```

8401       \expandafter\edef\expandafter\hvtex@param@dimension
8402       \expandafter{\expandafter\@gobble\hvtex@token}%
8403       \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).

```

8404       \let\hvtex@param@direction\hvtex@token
8405       \fi\fi\fi\fi
8406       \fi
8407       \fi
8408       \ifx\hvtex@buffer\@empty
8409       \let\next\hvtex@produce@trans
8410       \else
8411       \let\next\hvtex@trans@params
8412       \fi
8413       \next
8414   }%

```

Merge <transition_effect> and issue the special when possible. Too lazy to validate optional parameters.

```

8415 \def\hvtex@produce@trans{%
8416   \let\vtex@trans@special\@empty
8417   \if S\hvtex@trans@code
8418     \edef\vtex@trans@special{\hvtex@trans@code
8419       \hvtex@param@dimension\hvtex@param@motion}%
8420   \else\if B\hvtex@trans@code
8421     \edef\vtex@trans@special{%
8422       \hvtex@trans@code\hvtex@param@dimension
8423     }%
8424   \else\if X\hvtex@trans@code
8425     \edef\vtex@trans@special{%
8426       \hvtex@trans@code\hvtex@param@motion
8427     }%
8428   \else\if W\hvtex@trans@code
8429     \edef\vtex@trans@special{%
8430       \hvtex@trans@code\hvtex@param@direction
8431     }%
8432   \else\if D\hvtex@trans@code

```

```

8433     \let\vtex@trans@special\hvtex@trans@code
8434     \else\if R\hvtex@trans@code
8435         \let\vtex@trans@special\hvtex@trans@code
8436     \else\if G\hvtex@trans@code
8437         \edef\vtex@trans@special{%
8438             \hvtex@trans@code\hvtex@param@direction
8439         }%
8440     \fi\fi\fi\fi\fi\fi\fi
8441     \ifx\vtex@trans@special\@empty
8442     \else
8443         \ifx\hvtex@param@duration\@empty
8444         \else
8445             \setlength{\dimen@}{\hvtex@param@duration\p}%

```

I'm not guilty of possible overflow.

```

8446         \multiply\dimen@\@m
8447         \edef\vtex@trans@special{%
8448             \vtex@trans@special,\strip@pt\dimen@
8449         }%
8450     \fi

```

And all the mess is just for this.

```

8451     \special{!trans \vtex@trans@special}%
8452     \fi
8453 }%
8454 \def\hyper@pageduration{%
8455     \ifx\@pdfpageduration\relax
8456     \else
8457         \ifx\@pdfpageduration\@empty
8458             \special{!duration-}%
8459         \else
8460             \special{!duration \@pdfpageduration}%
8461         \fi
8462     \fi
8463 }%
8464 \def\hyper@pagehidden{%
8465     \ifHy@useHidKey
8466         \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
8467     \fi
8468 }%
8469 \g@addto@macro\Hy@EveryPageBoxHook{%
8470     \hyper@pagetransition
8471     \hyper@pageduration
8472     \hyper@pagehidden
8473 }%
8474 \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

```

8475 \ifx\@pdfproducer\relax
8476   \def\@pdfproducer{VTeX}%
8477   \ifnum\Hy@VTeXversion>\z@
8478     \count@\VTeXversion
8479     \divide\count@ 100 %
8480     \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
8481     \multiply\count@ -100 %
8482     \advance\count@\VTeXversion
8483     \edef\@pdfproducer{%
8484       \@pdfproducer
8485       .\ifnum\count@<10 0\fi\the\count@
8486       \ifx\VTeXOS\undefined\else
8487         \ifnum\VTeXOS>0 %
8488           \ifnum\VTeXOS<6 %
8489             \space(%
8490             \ifcase\VTeXOS
8491               \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
8492             \fi
8493             )%
8494           \fi
8495         \fi
8496       \fi
8497       ,\space
8498       \ifnum\OpMode=\@ne PDF\else PS\fi
8499       \space backend%
8500       \ifx\gexmode\undefined\else
8501         \ifnum\gexmode>\z@\space with GeX\fi
8502       \fi
8503     }%
8504   \fi
8505 \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).

```

8506 \def\PDF@SetupDoc{%
8507   \ifx\@pdfpagescrop\@empty
8508   \else
8509     \special{!pdfinfo b=<\@pdfpagescrop>}%
8510   \fi
8511   \ifx\@pdfstartpage\@empty
8512   \else
8513     \ifx\@pdfstartview\@empty
8514     \else
8515       \special{!onopen Page\@pdfstartpage}%
8516     \fi

```



```

8517 \fi
8518 \special{!pdfinfo p=<\/\@pdfpagemode>}%
8519 \ifx\@baseurl\@empty
8520 \else
8521 \special{!pdfinfo u=<<<\/Base (\@baseurl)>>>}%
8522 \fi
8523 \special{!pdfinfo v=<<<%
8524 \ifHy@toolbar\else /HideToolbar true\fi
8525 \ifHy@menubar\else /HideMenubar true\fi
8526 \ifHy>windowui\else /HideWindowUI true\fi
8527 \ifHy@fitwindow /FitWindow true\fi
8528 \ifHy@centerwindow /CenterWindow true\fi
8529 \ifHy@displaydoctitle /DisplayDocTitle true\fi
8530 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8531 \Hy@UseNameKey{Direction}\@pdfdirection
8532 \Hy@UseNameKey{ViewArea}\@pdfviewarea
8533 \Hy@UseNameKey{ViewClip}\@pdfviewclip
8534 \Hy@UseNameKey{PrintArea}\@pdfprintarea
8535 \Hy@UseNameKey{PrintClip}\@pdfprintclip
8536 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8537 \Hy@UseNameKey{Duplex}\@pdfduplex
8538 \ifx\@pdfpicktraybypdfsize\@empty
8539 \else
8540 /PickTrayByPDFSize \@pdfpicktraybypdfsize
8541 \fi
8542 \ifx\@pdfprintpagerange\@empty
8543 \else
8544 /PrintPageRange[\@pdfprintpagerange]%
8545 \fi
8546 \ifx\@pdfnumcopies\@empty
8547 \else
8548 /NumCopies \@pdfnumcopies
8549 \fi
8550 >>>}%
8551 \ifx\@pdfpagelayout\@empty
8552 \else
8553 \special{!pdfinfo l=<\/\@pdfpagelayout\space>}%
8554 \fi
8555 }%
8556 \def\PDF@FinishDoc{%
8557 \Hy@UseMaketitleInfos
8558 \special{!pdfinfo a=<\/\@pdfauthor>}%
8559 \special{!pdfinfo t=<\/\@pdftitle>}%
8560 \special{!pdfinfo s=<\/\@pdfsubject>}%
8561 \special{!pdfinfo c=<\/\@pdfcreator>}%
8562 \ifx\@pdfproducer\relax
8563 \else
8564 \special{!pdfinfo r=<\/\@pdfproducer>}%
8565 \fi
8566 \special{!pdfinfo k=<\/\@pdfkeywords>}%
8567 \Hy@DisableOption{pdfauthor}%
8568 \Hy@DisableOption{pdftitle}%
8569 \Hy@DisableOption{pdfsubject}%
8570 \Hy@DisableOption{pdfcreator}%
8571 \Hy@DisableOption{pdfcreationdate}%
8572 \Hy@DisableOption{pdfmoddate}%
8573 \Hy@DisableOption{pdfproducer}%

```

```

8574 \Hy@DisableOption{pdfkeywords}%
8575 }
8576 \</vtex>

```

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.

```

8577 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
8578 <package>\providecommand*\Hy@DistillerDestFix{}
8579 <*pdfmark | dviwindo>
8580 \def\Hy@DistillerDestFix{%
8581   \begingroup
8582     \let\x\literalps@out

```

The fix has to be passed unchanged through GeX, if VTeX in PostScript mode with GeX is used.

```

8583   \ifnum \@ifundefined{OpMode}{0}{%
8584     \@ifundefined{gexmode}{0}{%
8585       \ifnum\gexmode>0 \OpMode\else 0\fi
8586     }>1 %
8587   \def\x##1{%
8588     \immediate\special{!=##1}%
8589   }%
8590 \fi
8591 \x{%
8592   /product where{%
8593     pop %
8594     product(Distiller)search{%
8595       pop pop pop %
8596       version(.)search{%
8597         exch pop exch pop%
8598         (3011)eq{%
8599           gsave %
8600             newpath 0 0 moveto closepath clip%
8601             /Courier findfont 10 scalefont setfont %
8602             72 72 moveto(.)show %
8603             grestore%
8604           }if%
8605         }{pop}ifelse%
8606       }{pop}ifelse%
8607     }if%
8608   }%
8609 \endgroup
8610 }
8611 </pdfmark | dviwindo>

```

46.8 Direct pdfmark support

Drivers that load pdfmark.def have to provide the correct macro definitions of

| | |
|-----------------------------|--|
| <code>\pdfproducer</code> | for document information |
| <code>\literalps@out</code> | PostScript output |
| <code>\headerps@out</code> | PostScript output that goes in the header area |

and the correct definitions of the following PostScript procedures:

| | |
|---------------------|--|
| <code>H.S</code> | start of anchor, link or rect |
| <code>#1 H.A</code> | end of anchor, argument=baselineskip in pt |
| <code>#1 H.L</code> | end of link, argument=baselineskip in pt |
| <code>H.R</code> | end of rect |
| <code>H.B</code> | raw rect code |

```

8612 (*pdfmark)
8613 \Hy@breaklinks@unsupported
8614 \def\hyper@anchor#1{%
8615   \Hy@SaveLastskip
8616   \beginngroup
8617     \pdfmark[\anchor@spot]{%
8618       pdfmark=/DEST,%
8619       linktype=anchor,%
8620       View=/\@pdfview \@pdfviewparams,%
8621       DestAnchor={#1}%
8622     }%
8623   \endgroup
8624   \Hy@RestoreLastskip
8625 }
8626 \@ifundefined{hyper@anchorstart}{\endinput}{}
8627 \def\hyper@anchorstart#1{%
8628   \Hy@SaveLastskip
8629   \literalps@out{H.S}%
8630   \xdef\hyper@currentanchor{#1}%
8631   \Hy@activeanchortrue
8632 }
8633 \def\hyper@anchorend{%
8634   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
8635   \pdfmark{%
8636     pdfmark=/DEST,%
8637     linktype=anchor,%
8638     View=/\@pdfview \@pdfviewparams,%
8639     DestAnchor=\hyper@currentanchor,%
8640   }%
8641   \Hy@activeanchorfalse
8642   \Hy@RestoreLastskip
8643 }
8644 \def\hyper@linkstart#1#2{%
8645   \ifHy@breaklinks
8646   \else
8647     \leavevmode\hbox\bgroup
8648     \fi
8649     \expandafter\Hy@colorlink\csname @#1color\endcsname
8650     \literalps@out{H.S}%
8651     \xdef\hyper@currentanchor{#2}%
8652     \gdef\hyper@currentlinktype{#1}%
8653 }
8654 \def\hyper@linkend{%
8655   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
8656   \@ifundefined{@\hyper@currentlinktype bordercolor}{%
8657     \let\Hy@tempcolor\relax

```

```

8658 }{%
8659   \edef\Hy@tempcolor{%
8660     \csname @\hyper@currentlinktype bordercolor\endcsname
8661   }%
8662 }%
8663 \pdfmark{%
8664   pdfmark=/ANN,%
8665   linktype=link,%
8666   Subtype=/Link,%
8667   PDFAFlags=4,%
8668   Dest=\hyper@currentanchor,%
8669   AcroHighlight=\@pdfhighlight,%
8670   Border=\@pdfborder,%
8671   BorderStyle=\@pdfborderstyle,%
8672   Color=\Hy@tempcolor,%
8673   Raw=H.B%
8674 }%
8675 \Hy@endcolorlink
8676 \ifHy@breaklinks
8677 \else
8678   \egroup
8679 \fi
8680 }

```

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.

```

8681 \begingroup
8682 \catcode'P=12 %
8683 \catcode'T=12 %
8684 \lowercase{\endgroup
8685 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
8686 }
8687 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

\hyper@pagetransition

```

8688 \def\hyper@pagetransition{%
8689   \ifx\@pdfpagetransition\relax
8690   \else
8691     \ifx\@pdfpagetransition\@empty
8692       % 1. Does an old entry have to be deleted?
8693       % 2. If 1=yes, how to delete?
8694     \else
8695       \pdfmark{%
8696         pdfmark=/PUT,%
8697         Raw={%
8698           \string{ThisPage\string}%
8699           <</Trans << /S /\@pdfpagetransition\space >> >>%
8700         }%
8701       }%
8702     \fi
8703 \fi
8704 }

```

\hyper@pageduration

```

8705 \def\hyper@pageduration{%
8706   \ifx\@pdfpageduration\relax

```

```

8707 \else
8708   \ifx\@pdfpageduration\@empty
8709     % 1. Does an old entry have to be deleted?
8710     % 2. If 1=yes, how to delete?
8711   \else
8712     \pdfmark{%
8713       pdfmark=/PUT,%
8714       Raw={%
8715         \string{ThisPage\string}%
8716         <</Dur \@pdfpageduration>>%
8717       }%
8718     }%
8719   \fi
8720 \fi
8721 }

```

\hyper@pagehidden

```

8722 \def\hyper@pagehidden{%
8723   \ifHy@useHidKey
8724     \pdfmark{%
8725       pdfmark=/PUT,%
8726       Raw={%
8727         \string{ThisPage\string}%
8728         <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
8729       }%
8730     }%
8731   \fi
8732 }

8733 \g@addto@macro\Hy@EveryPageBoxHook{%
8734   \hyper@pagetransition
8735   \hyper@pageduration
8736   \hyper@pagehidden
8737 }

8738 \def\hyper@image#1#2{%
8739   \hyper@linkurl{#2}{#1}%
8740 }

8741 \def\Hy@undefinedname{UNDEFINED}
8742 \def\hyper@link#1#2#3{%
8743   \@ifundefined{#1bordercolor}{%
8744     \let\Hy@tempcolor\relax
8745   }{%
8746     \edef\Hy@tempcolor{\csname #1bordercolor\endcsname}%
8747   }%
8748   \begin{group}
8749     \protected@edef\Hy@testname{#2}%
8750     \ifx\Hy@testname\@empty
8751       \let\Hy@testname\Hy@undefinedname
8752     \fi
8753     \pdfmark[#{#3}]{%
8754       Color=\Hy@tempcolor,%
8755       linktype={#1},%
8756       AcroHighlight=\@pdfhighlight,%
8757       Border=\@pdfborder,%
8758       BorderStyle=\@pdfborderstyle,%
8759       pdfmark=/ANN,%
8760       Subtype=/Link,%

```

```

8761         PDFAFlags=4,%
8762         Dest=\Hy@testname
8763     }%
8764 \endgroup
8765 }
8766 \newtoks\pdf@docset
8767 \def\PDF@FinishDoc{%
8768     \Hy@UseMaketitleInfos
8769     \let\Hy@temp\@empty
8770     \ifx\@pdfcreationdate\@empty
8771     \else
8772         \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
8773     \fi
8774     \ifx\@pdfmoddate\@empty
8775     \else
8776         \expandafter\def\expandafter\Hy@temp\expandafter{%
8777             \Hy@temp
8778             ModDate=\@pdfmoddate,%
8779         }%
8780     \fi
8781     \ifx\@pdfproducer\relax
8782     \else
8783         \expandafter\def\expandafter\Hy@temp\expandafter{%
8784             \Hy@temp
8785             Producer=\@pdfproducer,%
8786         }%
8787     \fi
8788     \expandafter
8789     \pdfmark\expandafter{%
8790         \Hy@temp
8791         pdfmark=/DOCINFO,%
8792         Title=\@pdftitle,%
8793         Subject=\@pdfsubject,%
8794         Creator=\@pdfcreator,%
8795         Author=\@pdfauthor,%
8796         Keywords=\@pdfkeywords
8797     }%
8798     \Hy@DisableOption{pdfauthor}%
8799     \Hy@DisableOption{pdftitle}%
8800     \Hy@DisableOption{pdfsubject}%
8801     \Hy@DisableOption{pdfcreator}%
8802     \Hy@DisableOption{pdfcreationdate}%
8803     \Hy@DisableOption{pdfmoddate}%
8804     \Hy@DisableOption{pdfproducer}%
8805     \Hy@DisableOption{pdfkeywords}%
8806 }
8807 \def\PDF@SetupDoc{%
8808     \def\Hy@temp{}%
8809     \ifx\@pdfstartpage\@empty
8810     \else
8811         \ifx\@pdfstartview\@empty
8812         \else
8813             \edef\Hy@temp{%
8814                 ,Page=\@pdfstartpage
8815                 ,View=\@pdfstartview
8816             }%
8817         \fi

```

```

8818 \fi
8819 \edef\Hy@temp{%
8820   \noexpand\pdfmark{%
8821     pdfmark=/DOCVIEW,%
8822     PageMode=/\@pdfpagemode
8823   \Hy@temp
8824 }%
8825 }%
8826 \Hy@temp
8827 \ifx\@pdfpagescrop\@empty
8828 \else
8829   \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
8830 \fi
8831 \edef\Hy@temp{%
8832   \ifHy@toolbar\else /HideToolbar true\fi
8833   \ifHy@menubar\else /HideMenubar true\fi
8834   \ifHy>windowui\else /HideWindowUI true\fi
8835   \ifHy@fitwindow /FitWindow true\fi
8836   \ifHy@centerwindow /CenterWindow true\fi
8837   \ifHy@displaydoctitle /DisplayDocTitle true\fi
8838   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8839   \Hy@UseNameKey{Direction}\@pdfdirection
8840   \Hy@UseNameKey{ViewArea}\@pdfviewarea
8841   \Hy@UseNameKey{ViewClip}\@pdfviewclip
8842   \Hy@UseNameKey{PrintArea}\@pdfprintarea
8843   \Hy@UseNameKey{PrintClip}\@pdfprintclip
8844   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8845   \Hy@UseNameKey{Duplex}\@pdfduplex
8846   \ifx\@pdfpicktraybypdfsize\@empty
8847   \else
8848     /PickTrayByPDFSize \@pdfpicktraybypdfsize
8849   \fi
8850   \ifx\@pdfprintpagerange\@empty
8851   \else
8852     /PrintPageRange[\@pdfprintpagerange]%
8853   \fi
8854   \ifx\@pdfnumcopies\@empty
8855   \else
8856     /NumCopies \@pdfnumcopies
8857   \fi
8858 }%
8859 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
8860 \pdfmark{%
8861   pdfmark=/PUT,%
8862   Raw={%
8863     \string{Catalog\string}<<%
8864     \ifx\Hy@temp\@empty
8865     \else
8866       /ViewerPreferences<<\Hy@temp>>%
8867     \fi
8868     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
8869     \ifx\@pdflang\@empty
8870     \else
8871       /Lang(\@pdflang)%
8872     \fi
8873     \ifx\@baseurl\@empty
8874     \else

```

```

8875      /URI<</Base(\Hy@pstringB)>>%
8876      \fi
8877      >>%
8878      }%
8879      }%
8880 }
8881 </pdfmark>
8882 <*pdfmarkbase>

```

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.

```

8883 \newif\ifHy@pdfmarkerror
8884 \def\pdfmark{\@ifnextchar [{\pdfmark@}{\pdfmark@[]}}
8885 \def\pdfmark@[#1]#2{%
8886   \Hy@pdfmarkerrorfalse
8887   \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
8888   \@processme
8889   \let\pdf@type\relax
8890   \setkeys{PDF}{#2}%
8891   \ifHy@pdfmarkerror
8892   \else
8893     \ifx\pdf@type\relax
8894       \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
8895       \ifx\#1\%
8896       \else
8897         \pdf@rect{#1}%
8898       \fi
8899     \else
8900       \ifx\#1\%
8901         \literalps@out{%
8902           [\the\pdf@toks\space\pdf@type\space pdfmark%
8903         }%
8904       \else
8905         \@ifundefined{@\pdf@linktype color}{%
8906           \Hy@colorlink\@linkcolor
8907         }{%
8908           \expandafter\Hy@colorlink
8909             \csname @\pdf@linktype color\endcsname
8910         }%
8911         \pdf@rect{#1}%
8912         \literalps@out{%
8913           [\the\pdf@toks\space\pdf@type\space pdfmark%
8914         }%
8915         \Hy@endcolorlink
8916       \fi
8917     \fi
8918   \fi
8919 }

```

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 (toby@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}

8920 \newsavebox{\pdf@box}
8921 \providecommand*{\Hy@setouterhbox}{\sbox}
8922 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
8923 \def\Hy@DEST{/DEST}
8924 \def\pdf@rect#1{%
8925   \leavevmode
8926   \ifHy@breaklinks
8927     \Hy@setouterhbox\pdf@box{#1}%
8928   \else
8929     \sbox\pdf@box{#1}%
8930   \fi
8931   \dimen@ht\pdf@box
8932   \ifdim\dp\pdf@box=\z@
8933     \literalps@out{H.S}%
8934   \else
8935     \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
8936   \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...).

```

8937 \ifHy@breaklinks
8938   \expandafter\Hy@breaklinksunhbox
8939 \else
8940   \expandafter\box
8941 \fi
8942 \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

8943 \ifdim\dimen@=\z@
8944   \literalps@out{H.R}%
8945 \else
8946   \raise\dimen@\hbox{\literalps@out{H.R}}%
8947 \fi
8948 \ifx\pdf@type\Hy@DEST
8949 \else
8950   \pdf@addtoksx{H.B}%
8951 \fi
8952 }

```

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.

```

8953 \newtoks\pdf@toks
8954 \newtoks\pdf@defaulttoks
8955 \pdf@defaulttoks={}
8956 \def\pdf@addtoks#1#2{%
8957   \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
8958   \@processme
8959 }
8960 \def\pdf@addtoksx#1{%

```

```

8961 \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
8962 \@processme
8963 }
8964 \def\PDFdefaults#1{%
8965 \pdf@defaulttoks={#1}%
8966 }

```

This is the list of allowed keys. See the Acrobat manual for an explanation.

```

8967 % what is the type of pdfmark?
8968 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
8969 % what is the link type?
8970 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
8971 \def\pdf@linktype{link}
8972 % parameter is a stream of PDF
8973 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
8974 % parameter is a name
8975 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
8976 % parameter is a array
8977 \define@key{PDF}{Border}{%
8978 \edef\Hy@temp{#1}%
8979 \ifx\Hy@temp\@empty
8980 \else
8981 \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
8982 \fi
8983 }
8984 \let\Hy@BorderArrayPatch\@empty
8985 % parameter is a dictionary
8986 \define@key{PDF}{BorderStyle}{%
8987 \edef\Hy@temp{#1}%
8988 \ifx\Hy@temp\@empty
8989 \else
8990 \pdf@addtoks{<<#1>>}{BS}%
8991 \fi
8992 }
8993 % parameter is a array
8994 \define@key{PDF}{Color}{%
8995 \ifx\relax#1\relax
8996 \else
8997 \pdf@addtoks{[#1]}{Color}% hash-ok
8998 \fi
8999 }
9000 % parameter is a string
9001 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
9002 % parameter is a integer
9003 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
9004 % parameter is a array
9005 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
9006 % parameter is a string
9007 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
9008 % parameter is a string or file
9009 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
9010 % parameter is a destination
9011 \define@key{PDF}{Dest}{%
9012 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9013 \ifx\Hy@pstringDest\@empty
9014 \Hy@pdfmarkerrortrue
9015 \Hy@Warning{Destination with empty name ignored}%
9016 \else

```

```

9017 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
9018 \fi
9019 }
9020 \define@key{PDF}{DestAnchor}{%
9021 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9022 \ifx\Hy@pstringDest\empty
9023 \Hy@pdfmarkerrortrue
9024 \Hy@Warning{Destination with empty name ignored}%
9025 \else
9026 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
9027 \fi
9028 }
9029 % parameter is a string
9030 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
9031 % parameter is a string
9032 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
9033 % parameter is a int
9034 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
9035 \define@key{PDF}{PDFAFlags}{%
9036 \ifHy@pdfa
9037 \pdf@addtoks{#1}{F}%
9038 \fi
9039 }
9040 % parameter is a name
9041 \define@key{PDF}{AcroHighlight}{%
9042 \begingroup
9043 \edef\x{#1}%
9044 \expandafter\endgroup\ifx\x\empty
9045 \else
9046 \pdf@addtoks{#1}{H}%
9047 \fi
9048 }
9049 % parameter is a string
9050 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
9051 % parameter is a string
9052 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
9053 % parameter is a string
9054 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9055 % parameter is a string
9056 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
9057 % parameter is a Boolean
9058 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
9059 % parameter is a integer or name
9060 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
9061 % parameter is a name
9062 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
9063 % parameter is a string
9064 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
9065 % parameter is a array
9066 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
9067 % parameter is a integer
9068 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
9069 % parameter is a name
9070 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
9071 % parameter is a string
9072 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
9073 % parameter is a string

```

```

9074 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
9075 % parameter is a string
9076 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
9077 % parameter is an array
9078 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}% hash-ok
9079 % parameter is a string
9080 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

9081 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
9082 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
9083 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}
9084 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9085 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
9086 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
9087 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
9088 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9089 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
9090 \define@key{PDF}{URI}{\pdf@addtoks{(#1)}{URI}}
9091 \pdfmarkbase>
9092 <*pdfmark>
9093 \def\Acrobatmenu#1#2{%
9094   \Hy@Acrobatmenu{#1}{#2}{%
9095     \pdfmark[{#2}]{%
9096       linktype=menu,%
9097       pdfmark=/ANN,%
9098       AcroHighlight=\@pdfhighlight,%
9099       Border=\@pdfborder,%
9100       BorderStyle=\@pdfborderstyle,%
9101       Action={<< /Subtype /Named /N /#1 >>},%
9102       Subtype=/Link,%
9103       PDFAFlags=4%
9104     }%
9105   }%
9106 }

```

And now for some useful examples:

```

9107 \def\PDFNextPage{\@ifnextchar[{\PDFNextPage@}{\PDFNextPage@[]}}
9108 \def\PDFNextPage@[#1]#2{%
9109   \pdfmark[{#2}]{%
9110     #1,%
9111     Border=\@pdfborder,%
9112     BorderStyle=\@pdfborderstyle,%
9113     Color=.2 .1 .5,%
9114     pdfmark=/ANN,%
9115     Subtype=/Link,%
9116     PDFAFlags=4,%
9117     Page=/Next%
9118   }%
9119 }
9120 \def\PDFPreviousPage{%
9121   \@ifnextchar[{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
9122 }
9123 \def\PDFPreviousPage@[#1]#2{%
9124   \pdfmark[{#2}]{%
9125     #1,%
9126     Border=\@pdfborder,%
9127     BorderStyle=\@pdfborderstyle,%

```

```

9128     Color=.4 .4 .1,%
9129     pdfmark=/ANN,%
9130     Subtype=/Link,%
9131     PDFAFlags=4,%
9132     Page=/Prev%
9133 }%
9134 }
9135 \def\PDFOpen#1{%
9136   \pdfmark{#1,pdfmark=/DOCVIEW}%
9137 }

```

This will only work if you use Distiller 2.1 or higher.

```

9138 \def\hyper@linkurl#1#2{%
9139   \begingroup
9140     \Hy@pstringdef\Hy@pstringURI{#2}%
9141     \hyper@chars
9142     \leavevmode
9143     \pdfmark[{#1}]{%
9144       pdfmark=/ANN,%
9145       linktype=url,%
9146       AcroHighlight=\@pdfhighlight,%
9147       Border=\@pdfborder,%
9148       BorderStyle=\@pdfborderstyle,%
9149       Color=\@urlbordercolor,%
9150       Action={<< /Subtype /URI /URI (\Hy@pstringURI) >>},%
9151       Subtype=/Link,%
9152       PDFAFlags=4%
9153     }%
9154   \endgroup
9155 }
9156 \def\hyper@linkfile#1#2#3{%
9157   \begingroup
9158     \Hy@pstringdef\Hy@pstringF{#2}%
9159     \Hy@pstringdef\Hy@pstringD{#3}%
9160     \leavevmode
9161     \pdfmark[{#1}]{%
9162       pdfmark=/ANN,%
9163       Subtype=/Link,%
9164       PDFAFlags=4,%
9165       AcroHighlight=\@pdfhighlight,%
9166       Border=\@pdfborder,%
9167       BorderStyle=\@pdfborderstyle,%
9168       linktype=file,%
9169       Color=\@filebordercolor,%
9170       Action={%
9171         <<%
9172           /S/GoToR%
9173           \Hy@SetNewWindow
9174           /F(\Hy@pstringF)%
9175           /D\ifx\#3\[\[0 \@pdfstartview\]\else(\Hy@pstringD)cvn\fi
9176         >>%
9177       }%
9178     }%
9179   \endgroup
9180 }
9181 \def\@hyper@launch run:#1\#2#3{%
9182   \begingroup
9183     \Hy@pstringdef\Hy@pstringF{#1}%

```

```

9184 \Hy@pstringdef\Hy@pstringP{#3}%
9185 \leavevmode
9186 \pdfmark[#{#2}]{%
9187   pdfmark=/ANN,%
9188   Subtype=/Link,%
9189   PDFAFlags=4,%
9190   AcroHighlight=\@pdfhighlight,%
9191   Border=\@pdfborder,%
9192   BorderStyle=\@pdfborderstyle,%
9193   linktype=run,%
9194   Color=\@runbordercolor,%
9195   Action={%
9196     <<%
9197     /S/Launch%
9198     \Hy@SetNewWindow
9199     /F(\Hy@pstringF)%
9200     \ifx\#3\%
9201     \else
9202     /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9203     \fi
9204     >>%
9205   }%
9206 }%
9207 \endgroup
9208 }
9209 </pdfmark>

```

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.

```

9210 <*dvips>
9211 \providecommand*{\XR@ext}{pdf}
9212 \def\Hy@raisedlink{}
9213 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
9214 \def\headerps@out#1{\special{! #1}}%
9215 \input{pdfmark.def}%
9216 \ifx\@pdfproducer\relax
9217   \def\@pdfproducer{dvips + Distiller}%
9218 \fi
9219 \providecommand*\@pdfborder{0 0 1}
9220 \providecommand*\@pdfborderstyle{}
9221 \providecommand*\@pdfview{XYZ}
9222 \providecommand*\@pdfviewparams{ H.V}
9223 \def\Hy@BorderArrayPatch{BorderArrayPatch}
9224 \g@addto@macro\Hy@FirstPageHook{%
9225   \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.

```
9226 /DvipsToPDF{72.27 mul Resolution div} def%
9227 /PDFToDvips{72.27 div Resolution mul} def%
9228 /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.

```
9229 /BorderArrayPatch{%
9230   [exch{%
9231     dup dup type/integertype eq exch type/realtype eq or%
9232     {BPToDvips}if%
9233   }forall]%
9234 }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.

```
9235 /HyperBorder {1 PDFToDvips} def%
9236 /H.V {pdf@hoff pdf@voff null} def%
9237 /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

```
9238 /H.S {%
9239   currentpoint %
9240   HyperBorder add /pdf@lly exch def %
9241   dup DvipsToPDF 72 add /pdf@hoff exch def %
9242   HyperBorder sub /pdf@llx exch def%
9243 } 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`

```
9244 /H.L {%
9245   2 sub dup%
9246   /HyperBasePt exch def %
9247   PDFToDvips /HyperBaseDvips exch def %
9248   currentpoint %
9249   HyperBaseDvips sub /pdf@ury exch def%
9250   /pdf@urx exch def%
9251 } def%
9252 /H.A {%
9253   H.L %
9254 % |pdf@voff| = the distance from the top of the page to a point
9255 % |\baselineskip| above the current point in PDF coordinates
9256   currentpoint exch pop %
9257   vsize 72 sub exch DvipsToPDF %
9258   HyperBasePt sub % baseline skip
```

```

9259      sub /pdf@voff exch def%
9260    } def%
9261    /H.R {%
9262      currentpoint %
9263      HyperBorder sub /pdf@ury exch def %
9264      HyperBorder add /pdf@urx exch def %
9265    % | /pdf@voff| = the distance from the top of the page to the current point, in
9266    % PDF coordinates
9267      currentpoint exch pop vsize 72 sub %
9268      exch DvipsToPDF sub /pdf@voff exch def%
9269    } def%
9270  }%
9271 }
9272 \AfterBeginDocument{%
9273   \ifx\special@paper\@empty\else
9274     \ifHy@setpagesize
9275       \special{papersize=\special@paper}%
9276     \fi
9277   \fi
9278   \Hy@DisableOption{setpagesize}%
9279 }
9280 </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.

```

9281 <*vtexpdfmark>
9282 \providecommand*{\XR@ext}{pdf}
9283 \def\Hy@raisedlink{}
9284 \def\literalps@out#1{\special{pS:#1}}%
9285 \def\headerps@out#1{\immediate\special{pS:#1}}%
9286 \input{pdfmark.def}%
9287 \ifx\@pdfproducer\relax
9288   \ifnum\OpMode=\@ne
9289     \def\@pdfproducer{VTeX}%
9290   \else
9291     \def\@pdfproducer{VTeX + Distiller}%
9292   \fi
9293 \fi
9294 \providecommand*\@pdfborder{0 0 1}
9295 \providecommand*\@pdfborderstyle{}
9296 \providecommand*\@pdfview{XYZ}
9297 \providecommand*\@pdfviewparams{ H.V}
9298 \g@addto@macro\Hy@FirstPageHook{%
9299   \headerps@out{%
9300     /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.

```

9301   /HyperBorder {1} def%
9302   /H.V {pdf@hoff pdf@voff null} def%
9303   /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: $\text{pdf@lly} = Y_c - \text{HyperBorder}$, $\text{pdf@hoff} = X_c + 72$, $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

9304    /H.S {%
9305        currentpoint %
9306        HyperBorder sub%
9307        /pdf@lly exch def %
9308        dup 72 add /pdf@hoff exch def %
9309        HyperBorder sub%
9310        /pdf@llx exch def%
9311    } def%

```

The x and y coordinates of the current point, minus the `\baselineskip`: $\text{pdf@ury} = Y_c + \text{HyperBasePt} + \text{HyperBorder}$, $\text{pdf@urx} = X_c + \text{HyperBorder}$

```

9312    /H.L {%
9313        2 sub%
9314        /HyperBasePt exch def %
9315        currentpoint %
9316        HyperBasePt add HyperBorder add%
9317        /pdf@ury exch def %
9318        HyperBorder add%
9319        /pdf@urx exch def%
9320    } def%
9321    /H.A {%
9322        H.L %
9323        currentpoint exch pop %
9324        vsize 72 sub exch %
9325        HyperBasePt add add%
9326        /pdf@voff exch def%
9327    } def%

```

$\text{pdf@ury} = Y_c + \text{HyperBorder}$, $\text{pdf@urx} = X_c + \text{HyperBorder}$

```

9328    /H.R {%
9329        currentpoint %
9330        HyperBorder add%
9331        /pdf@ury exch def %
9332        HyperBorder add%
9333        /pdf@urx exch def %
9334        currentpoint exch pop vsize 72 sub add%
9335        /pdf@voff exch def%
9336    } def%
9337 }%
9338 }
9339 </vtxpdfmark>

```

46.11 Textures

```

9340 <*textures>
9341 \providecommand*{\XR@ext}{pdf}

```

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.

```
9342 \begingroup
9343   \obeylines %
9344   \gdef\Hy@ps@CR{\noexpand
9345     }%
9346 \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`.

```
9347 \def\literalps@out#1{%
9348   \special{postscript 0 0 transform}%
9349   \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
9350 }%
9351 %
```

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.

```
9352 \def\headerps@out#1{%
9353   \special{%
9354     prepostscript TeXdict begin\Hy@ps@CR
9355       #1\Hy@ps@CR
9356     end%
9357   }%
9358 }%
9359 %
```

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.

```
9360 \g@addto@macro\Hy@FirstPageHook{%
9361   \headerps@out{%
9362     /betterpdfmark {%
9363       systemdict begin %
9364         dup /BP eq%
9365         {cleartomark gsave nulldevice []}%
9366         {dup /EP eq%
9367           {cleartomark cleartomark grestore}%
9368           {cleartomark}%
9369         }ifelse%
9370       }ifelse %
9371     end%
9372   }def\Hy@ps@CR
9373   __pdfmark__ not{/pdfmark /betterpdfmark load def}if%
9374 }% end of \headerps@out
9375 }% end of \AtBeginShipoutFirst
9376 %
9377 \input{pdfmark.def}%
9378 %
9379 \ifx\@pdfproducer\relax
```

```

9380 \def\@pdfproducer{Textures + Distiller}%
9381 \fi
9382 \providecommand*\@pdfborder{0 0 1}
9383 \providecommand*\@pdfborderstyle{}
9384 \providecommand*\@pdfview{XYZ}
9385 \providecommand*\@pdfviewparams{ H.V}
9386 %

```

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 \TeX .

```

9387 \headerps@out{%

```

Textures lives in normal points, I think. So conversion from one coordinate system to another involves doing nothing.

```

9388 /vsize {\Hy@pageheight} def%
9389 /DvipsToPDF {} def%
9390 /PDFToDvips {} def%
9391 /BPToDvips {} def%
9392 /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
9393 /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
9394 /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
9395 /H.S {%
9396     currentpoint %
9397     HyperBorder add /pdf@lly exch def %
9398     dup DvipsToPDF 72 add /pdf@hoff exch def %
9399     HyperBorder sub /pdf@llx exch def%
9400 } def\Hy@ps@CR
9401 /H.L {%
9402     2 sub %
9403     PDFToDvips /HyperBase exch def %
9404     currentpoint %
9405     HyperBase sub /pdf@ury exch def%
9406     /pdf@urx exch def%
9407 } def\Hy@ps@CR
9408 /H.A {%
9409     H.L %
9410     currentpoint exch pop %
9411     vsize 72 sub exch DvipsToPDF %
9412     HyperBase sub % baseline skip
9413     sub /pdf@voff exch def%
9414 } def\Hy@ps@CR
9415 /H.R {%
9416     currentpoint %
9417     HyperBorder sub /pdf@ury exch def %
9418     HyperBorder add /pdf@urx exch def %
9419     currentpoint exch pop vsize 72 sub %
9420     exch DvipsToPDF sub /pdf@voff exch def%
9421 } def\Hy@ps@CR
9422 }

9423 \AfterBeginDocument{%
9424     \ifHy@colorlinks
9425         \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
9426     \fi
9427 }

```

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.

```

9428 \expandafter\let\expandafter\keepPDF@SetupDoc
9429 \cscname PDF@SetupDoc\endcsname
9430 \def\PDF@SetupDoc{%
9431   \ifx\@baseurl\@empty
9432   \else
9433     \special{html:<base href="\@baseurl">}%
9434   \fi
9435   \keepPDF@SetupDoc
9436 }
9437 \def\hyper@anchor#1{%
9438   \Hy@SaveLastskip
9439   \begingroup
9440     \let\protect=\string
9441     \special{html:<a name=%
9442       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9443   \endgroup
9444   \Hy@activeanchortrue
9445   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9446   \special{html:</a>}%
9447   \Hy@activeanchorfalse
9448   \Hy@RestoreLastskip
9449 }
9450 \def\hyper@anchorstart#1{%
9451   \Hy@SaveLastskip
9452   \begingroup
9453     \hyper@chars
9454     \special{html:<a name=%
9455       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9456   \endgroup
9457   \Hy@activeanchortrue
9458 }
9459 \def\hyper@anchorend{%
9460   \special{html:</a>}%
9461   \Hy@activeanchorfalse
9462   \Hy@RestoreLastskip
9463 }
9464 \def\@urltype{url}
9465 \def\hyper@linkstart#1#2{%
9466   \expandafter\Hy@colorlink\cscname @#1color\endcsname
9467   \def\Hy@tempa{#1}%
9468   \ifx\Hy@tempa\@urltype
9469     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9470   \else
9471     \begingroup
9472       \hyper@chars
9473       \special{html:<a href=%
9474         \hyper@quote\#HyperDestNameFilter{#2}\hyper@quote>}%
9475     \endgroup
9476   \fi
9477 }
9478 \def\hyper@linkend{%
9479   \special{html:</a>}%
9480   \Hy@endcolorlink
9481 }
9482 \def\hyper@linkfile#1#2#3{%

```

```

9483 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
9484 }
9485 \def\hyper@linkurl#1#2{%
9486 \leavevmode
9487 \ifHy@raiselinks
9488 \setbox\@tempboxa=\color@hbox #1\color@endbox
9489 \@linkdim\dp\@tempboxa
9490 \lower\@linkdim\hbox{%
9491 \hyper@chars
9492 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
9493 }%
9494 \Hy@colorlink\@urlcolor#1%
9495 \@linkdim\ht\@tempboxa
9496 \advance\@linkdim by -6.5\p@
9497 \raise\@linkdim\hbox{\special{html:</a>}}%
9498 \Hy@endcolorlink
9499 \else
9500 \begingroup
9501 \hyper@chars
9502 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
9503 \Hy@colorlink\@urlcolor#1%
9504 \special{html:</a>}}%
9505 \Hy@endcolorlink
9506 \endgroup
9507 \fi
9508 }

```

Very poor implementation of \hyper@link without considering #1.

```

9509 \def\hyper@link#1#2#3{%
9510 \hyper@linkurl{#3}{\#HyperDestNameFilter{#2}}%
9511 }
9512 \def\hyper@image#1#2{%
9513 \begingroup
9514 \hyper@chars
9515 \special{html:<img src=\hyper@quote#1\hyper@quote>}}%
9516 \endgroup
9517 }
9518 </textures>

```

46.12 dvipsone

```

9519 % \subsection{dvipsone driver}
9520 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
9521 % |\special| commands.
9522 < *dvipsone>
9523 \providecommand*\XR@ext{pdf}
9524 \def\Hy@raisedlink{}
9525 \providecommand*\pdfborder{0 0 1}
9526 \providecommand*\pdfborderstyle{}
9527 \def\literalps@out#1{\special{ps:#1}}%
9528 \def\headerps@out#1{\special{headertext=#1}}%
9529 \input{pdfmark.def}%
9530 \ifx\@pdfproducer\relax
9531 \def\@pdfproducer{dvipsone + Distiller}%
9532 \fi
9533 \def\PDF@FinishDoc{%
9534 \Hy@UseMaketitleInfos
9535 \special{PDF: Keywords \@pdfkeywords}%

```

```

9536 \special{PDF: Title \@pdftitle}%
9537 \special{PDF: Creator \@pdfcreator}%
9538 \ifx\@pdfcreationdate\@empty
9539 \else
9540 \special{PDF: CreationDate \@pdfcreationdate}%
9541 \fi
9542 \ifx\@pdfmoddate\@empty
9543 \else
9544 \special{PDF: ModDate \@pdfmoddate}%
9545 \fi
9546 \special{PDF: Author \@pdfauthor}%
9547 \ifx\@pdfproducer\relax
9548 \else
9549 \special{PDF: Producer \@pdfproducer}%
9550 \fi
9551 \special{PDF: Subject \@pdfsubject}%
9552 \Hy@DisableOption{pdfauthor}%
9553 \Hy@DisableOption{pdftitle}%
9554 \Hy@DisableOption{pdfsubject}%
9555 \Hy@DisableOption{pdfcreator}%
9556 \Hy@DisableOption{pdfcreationdate}%
9557 \Hy@DisableOption{pdfmoddate}%
9558 \Hy@DisableOption{pdfproducer}%
9559 \Hy@DisableOption{pdfkeywords}%
9560 }
9561 \def\PDF@SetupDoc{%
9562 \def\Hy@temp{%
9563 \ifx\@pdfstartpage\@empty
9564 \else
9565 \ifx\@pdfstartview\@empty
9566 \else
9567 \edef\Hy@temp{%
9568 ,Page=\@pdfstartpage
9569 ,View=\@pdfstartview
9570 }%
9571 \fi
9572 \fi
9573 \edef\Hy@temp{%
9574 \noexpand\pdfmark{%
9575 pdfmark=/DOCVIEW,%
9576 PageMode=/\@pdfpagemode
9577 \Hy@temp
9578 }%
9579 }%
9580 \Hy@temp
9581 \ifx\@pdfpagescrop\@empty
9582 \else
9583 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9584 \fi
9585 \edef\Hy@temp{%
9586 \ifHy@toolbar\else /HideToolbar true\fi
9587 \ifHy@menubar\else /HideMenubar true\fi
9588 \ifHy@windowui\else /HideWindowUI true\fi
9589 \ifHy@fitwindow /FitWindow true\fi
9590 \ifHy@centerwindow /CenterWindow true\fi
9591 \ifHy@displaydoctitle /DisplayDocTitle true\fi
9592 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode

```

```

9593 \Hy@UseNameKey{Direction}\@pdfdirection
9594 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9595 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9596 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9597 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9598 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9599 \Hy@UseNameKey{Duplex}\@pdfduplex
9600 \ifx\@pdfpicktraybypdfsize\@empty
9601 \else
9602 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9603 \fi
9604 \ifx\@pdfprintpagerange\@empty
9605 \else
9606 /PrintPageRange[\@pdfprintpagerange]%
9607 \fi
9608 \ifx\@pdfnumcopies\@empty
9609 \else
9610 /NumCopies \@pdfnumcopies
9611 \fi
9612 }%
9613 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9614 \pdfmark{%
9615 pdfmark=/PUT,%
9616 Raw={%
9617 \string{Catalog\string}<<%
9618 \ifx\Hy@temp\@empty
9619 \else
9620 /ViewerPreferences<<\Hy@temp>>%
9621 \fi
9622 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9623 \ifx\@pdflang\@empty
9624 \else
9625 /Lang(\@pdflang)%
9626 \fi
9627 \ifx\@baseurl\@empty
9628 \else
9629 /URI<</Base(\Hy@pstringB)>>%
9630 \fi
9631 >>%
9632 }%
9633 }%
9634 }
9635 \providecommand*\@pdfview{XYZ}
9636 \providecommand*\@pdfviewparams{ %
9637 gsave revscl currentpoint grestore %
9638 72 add exch pop null exch null%
9639 }
9640 \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.

```

9641 \g@addto@macro\Hy@FirstPageHook{%
9642 \headerps@out{%

```

dvipsone lives in scaled points; does this mean 65536 or 65781?

```

9643 /DvipsToPDF { 65781 div } def%
9644 /PDFToDvips { 65781 mul } def%
9645 /BPToDvips{65781 mul}def%
9646 /HyperBorder { 1 PDFToDvips } def%
9647 /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.

```

9648 /BorderArrayPatch{%
9649   [exch{%
9650     dup dup type/integertype eq exch type/realtype eq or%
9651     {BPToDvips}if%
9652   }forall]%
9653 }def%
9654 /H.S {%
9655   currentpoint %
9656   HyperBorder add /pdf@lly exch def %
9657   dup DvipsToPDF 72 add /pdf@hoff exch def %
9658   HyperBorder sub /pdf@llx exch def%
9659 } def%
9660 /H.L {%
9661   2 sub %
9662   PDFToDvips /HyperBase exch def %
9663   currentpoint %
9664   HyperBase sub /pdf@ury exch def%
9665   /pdf@urx exch def%
9666 } def%
9667 /H.A {%
9668   H.L %
9669   currentpoint exch pop %
9670   HyperBase sub % baseline skip
9671   DvipsToPDF /pdf@voff exch def%
9672 } def%
9673 /H.R {%
9674   currentpoint %
9675   HyperBorder sub /pdf@ury exch def %
9676   HyperBorder add /pdf@urx exch def %
9677   currentpoint exch pop DvipsToPDF /pdf@voff exch def%
9678 } def%
9679 }%
9680 }
9681 </dvipsone>

```

46.13 TeX4ht

```

9682 <*tex4ht>
9683 \providecommand*{\XR@ext}{html}
9684 \def\Hy@raisedlink{}
9685 \@ifpackageloaded{tex4ht}{%
9686   \typeout{hyperref tex4ht: tex4ht already loaded}%
9687 }{%
9688   \RequirePackage[hx4ht]{tex4ht}%
9689 }
9690 \hyperlinkfileprefix{}
9691 \def\PDF@FinishDoc{}
9692 \def\PDF@SetupDoc{%
9693   \ifx\@baseurl\@empty

```



```

9694 \else
9695 \special{t4ht=<base href="\@baseurl">}%
9696 \fi
9697 }
9698 \def\hyper@anchor#1{%
9699 \Hy@SaveLastskip
9700 \begingroup
9701 \let\protect=\string
9702 \special{t4ht=<a name=%
9703 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9704 \endgroup
9705 \Hy@activeanchortrue
9706 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9707 \special{t4ht=</a>}%
9708 \Hy@activeanchorfalse
9709 \Hy@RestoreLastskip
9710 }
9711 \def\hyper@anchorstart#1{%
9712 \Hy@SaveLastskip
9713 \begingroup
9714 \hyper@chars\special{t4ht=<a name=%
9715 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9716 \endgroup
9717 \Hy@activeanchortrue
9718 }
9719 \def\hyper@anchorend{%
9720 \special{t4ht=</a>}%
9721 \Hy@activeanchorfalse
9722 \Hy@RestoreLastskip
9723 }
9724 \def\@urltype{url}
9725 \def\hyper@linkstart#1#2{%
9726 \expandafter\Hy@colorlink\csname @#1color\endcsname
9727 \def\Hy@tempa{#1}%
9728 \ifx\Hy@tempa\@urltype
9729 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
9730 \else
9731 \begingroup
9732 \hyper@chars
9733 \special{t4ht=<a href=%
9734 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
9735 \endgroup
9736 \fi
9737 }
9738 \def\hyper@linkend{%
9739 \special{t4ht=</a>}%
9740 \Hy@endcolorlink
9741 }
9742 \def\hyper@linkfile#1#2#3{%
9743 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
9744 }
9745 \def\hyper@linkurl#1#2{%
9746 \leavevmode
9747 \ifHy@raiselinks
9748 \setbox\@tempboxa=\color@hbox #1\color@endbox
9749 \@linkdim\dp\@tempboxa
9750 \lower\@linkdim\hbox{%

```

```

9751     \begingroup
9752     \hyper@chars\special{t4ht=<a href=\hyper@quote#2\hyper@quote>}}%
9753     \endgroup
9754 }%
9755 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
9756 \@linkdim\ht\@tempboxa
9757 \advance\@linkdim by -6.5\p@
9758 \raise\@linkdim\hbox{\special{t4ht=</a>}}%
9759 \else
9760 \begingroup
9761 \hyper@chars
9762 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}}%
9763 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
9764 \special{t4ht=</a>}}%
9765 \endgroup
9766 \fi
9767 }

```

Poor implementation of \hyper@link without considering #1.

```

9768 \def\hyper@link#1#2#3{%
9769   \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}}%
9770 }
9771 \def\hyper@image#1#2{%
9772   \begingroup
9773   \hyper@chars
9774   \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}}%
9775   \endgroup
9776 }
9777 \let\autoref\ref
9778 \ifx \rEfLiNK \UnDef
9779   \def\rEfLiNK #1#2{#2}%
9780 \fi
9781 \def\backref#1{}
9782 </tex4ht>
9783 <*tex4htcfg>
9784 \IfFileExists{\jobname.cfg}{\endinput}{}
9785 \Preamble{html}
9786   \begin{document}%
9787 \EndPreamble
9788 \def\TeX{TeX}
9789 \def\OMEGA{\Omega}
9790 \def\LaTeX{LaTeX}
9791 \def\LaTeXe{\LaTeX2e}
9792 \def\eTeX{e-TeX}
9793 \def\MF{Metafont}
9794 \def\MP{MetaPost}
9795 </tex4htcfg>

```

47 Driver-specific form support

47.1 pdfmarks

```

9796 <*pdfmark>
9797 \long\def\@Form[#1]{%
9798 \g@addto@macro\Hy@FirstPageHook{%
9799   \headerps@out{%
9800 [%
9801   /_objdef{pdfDocEncoding}%

```

```

9802 /type/dict%
9803 /OBJ pdfmark%
9804 [%
9805 {pdfDocEncoding}%
9806 <<%
9807 /Type/Encoding%
9808 /Differences[%
9809 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
9810 /tilde %
9811 39/quotesingle %
9812 96/grave %
9813 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
9814 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
9815 /quotedblbase/quotedblleft/quotedblright/quoteleft%
9816 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%
9817 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
9818 164/currency %
9819 166/brokenbar %
9820 168/dieresis/copyright/ordfeminine %
9821 172/logicalnot/.notdef/registered/macron/degree/plusminus%
9822 /twosuperior/threesuperior/acute/mu %
9823 183/periodcentered/cedilla/onesuperior/ordmasculine %
9824 188/onequarter/onehalf/threequarters %
9825 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
9826 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
9827 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
9828 /Ocircumflex/Otilde/Odieresis/multiply/Slash/Ugrave%
9829 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
9830 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
9831 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
9832 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
9833 /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%
9834 /ucircumflex/udieresis/yacute/thorn/ydieresis%
9835 ]%
9836 >>%
9837 /PUT pdfmark%
9838 [%
9839 /_objdef{ZaDb}%
9840 /type/dict%
9841 /OBJ pdfmark%
9842 [%
9843 {ZaDb}%
9844 <<%
9845 /Type/Font%
9846 /Subtype/Type1%
9847 /Name/ZaDb%
9848 /BaseFont/ZapfDingbats%
9849 >>%
9850 /PUT pdfmark%
9851 [%
9852 /_objdef{Helv}%
9853 /type/dict%
9854 /OBJ pdfmark%
9855 [%
9856 {Helv}%
9857 <<%
9858 /Type/Font%

```

```

9859     /Subtype/Type1%
9860     /Name/Helv%
9861     /BaseFont/Helvetica%
9862     /Encoding{pdfDocEncoding}%
9863   >>%
9864 /PUT pdfmark%
9865 [%
9866   /_objdef{aform}%
9867   /type/dict%
9868 /OBJ pdfmark%
9869 [%
9870   /_objdef{afields}%
9871   /type/array%
9872 /OBJ pdfmark%
9873 {%
9874   [%
9875     /BBox[0 0 100 100]%
9876     /_objdef{Check}%
9877   /BP pdfmark %
9878   1 0 0 setrgbcolor%
9879   /ZapfDingbats 80 selectfont %
9880   20 20 moveto%
9881   (4)show%
9882   [/EP pdfmark%
9883   [%
9884     /BBox[0 0 100 100]%
9885     /_objdef{Cross}%
9886   /BP pdfmark %
9887   1 0 0 setrgbcolor%
9888   /ZapfDingbats 80 selectfont %
9889   20 20 moveto%
9890   (8)show%
9891   [/EP pdfmark%
9892   [%
9893     /BBox[0 0 250 100]%
9894     /_objdef{Submit}%
9895   /BP pdfmark %
9896   0.6 setgray %
9897   0 0 250 100 rectfill %
9898   1 setgray %
9899   2 2 moveto %
9900   2 98 lineto %
9901   248 98 lineto %
9902   246 96 lineto %
9903   4 96 lineto %
9904   4 4 lineto %
9905   fill %
9906   0.34 setgray %
9907   248 98 moveto %
9908   248 2 lineto %
9909   2 2 lineto %
9910   4 4 lineto %
9911   246 4 lineto %
9912   246 96 lineto %
9913   fill%
9914   /Helvetica 76 selectfont %
9915   0 setgray %

```

```

9916 8 22.5 moveto%
9917 (Submit)show%
9918 [/EP pdfmark%
9919 [%
9920 /BBox[0 0 250 100]%
9921 /_objdef{SubmitP}%
9922 /BP pdfmark %
9923 0.6 setgray %
9924 0 0 250 100 rectfill %
9925 0.34 setgray %
9926 2 2 moveto %
9927 2 98 lineto %
9928 248 98 lineto %
9929 246 96 lineto %
9930 4 96 lineto %
9931 4 4 lineto %
9932 fill %
9933 1 setgray %
9934 248 98 moveto %
9935 248 2 lineto %
9936 2 2 lineto %
9937 4 4 lineto %
9938 246 4 lineto %
9939 246 96 lineto %
9940 fill%
9941 /Helvetica 76 selectfont %
9942 0 setgray %
9943 10 20.5 moveto%
9944 (Submit)show%
9945 [/EP pdfmark%
9946 } ?pdfmark%
9947 [%
9948 {aform}%
9949 <<%
9950 /Fields{afields}%
9951 /DR<<%
9952 /Font<<%
9953 /ZaDb{ZaDb}%
9954 /Helv{Helv}%
9955 >>%
9956 >>%
9957 /DA(/Helv 10 Tf 0 g)%
9958 /CO{corder}%
9959 \ifHy@pdfa
9960 \else
9961 /NeedAppearances true%
9962 \fi
9963 >>%
9964 /PUT pdfmark%
9965 [%
9966 {Catalog}%
9967 <<%
9968 /AcroForm{aform}%
9969 >>%
9970 /PUT pdfmark%
9971 [%
9972 /_objdef{corder}%

```

```

9973 /type/array%
9974 /OBJ pdfmark% dps
9975 }}%
9976 \setkeys{Form}{#1}%
9977 }
9978 \def\@endForm{}
9979 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
9980 \typeout{Sorry, pdfmark drivers do not support FORM gauges}%
9981 }
9982 \def\@TextField[#1]#2{% parameters, label
9983 \def\Fld@name{#2}%
9984 \def\Fld@default{}%
9985 \let\Fld@value\@empty
9986 \def\Fld@width{\DefaultWidthofText}%
9987 \def\Fld@height{%
9988 \ifFld@multiline
9989 \DefaultHeightofTextMultiline
9990 \else
9991 \DefaultHeightofText
9992 \fi
9993 }%
9994 \begingroup
9995 \Field@toks={ }%
9996 \expandafter\HyField@SetKeys\expandafter{%
9997 \DefaultOptionsofText,#1%
9998 }%
9999 \HyField@FlagsText
10000 \ifFld@hidden\def\Fld@width{1sp}\fi
10001 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
10002 \LayoutTextField{#2}{%
10003 \Hy@escapeform\PDFForm@Text
10004 \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
10005 pdfmark=/ANN,Raw={\PDFForm@Text}%
10006 }%
10007 }%
10008 \endgroup
10009 }
10010 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10011 \def\Fld@name{#2}%
10012 \let\Fld@default\relax
10013 \let\Fld@value\relax
10014 \def\Fld@width{\DefaultWidthofChoiceMenu}%
10015 \def\Fld@height{\DefaultHeightofChoiceMenu}%
10016 \begingroup
10017 \Fld@menulength=0 %
10018 \@tempdima\z@
10019 \@for\@curropt:=#3\do{%
10020 \expandafter\Fld@checkequals\@curropt==\\%
10021 \Hy@StepCount\Fld@menulength
10022 \settowidth{\@tempdimb}{\@currDisplay}%
10023 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
10024 }%
10025 \advance\@tempdima by 15\p@
10026 \Field@toks={ }%
10027 \begingroup
10028 \HyField@SetKeys{#1}%
10029 \edef\x{\endgroup

```

```

10030 \noexpand\expandafter
10031 \noexpand\HyField@SetKeys
10032 \noexpand\expandafter{%
10033 \expandafter\noexpand\csname DefaultOptionsof%
10034 \ifFld@radio
10035 Radio%
10036 \else
10037 \ifFld@combo
10038 \ifFld@popdown
10039 PopdownBox%
10040 \else
10041 ComboBox%
10042 \fi
10043 \else
10044 ListBox%
10045 \fi
10046 \fi
10047 \endcsname
10048 }%
10049 }\x
10050 \HyField@SetKeys{#1}%
10051 \ifFld@hidden\def\Fld@width{1sp}\fi
10052 \ifx\Fld@value\relax
10053 \let\Fld@value\Fld@default
10054 \fi
10055 \LayoutChoiceField{#2}{%
10056 \ifFld@radio
10057 \HyField@FlagsRadioButton
10058 \@@Radio{#3}%
10059 \else
10060 \begingroup
10061 \HyField@FlagsChoice
10062 \ifdim\Fld@width<\@tempdima
10063 \ifdim\@tempdima<1cm\@tempdima1cm\fi
10064 \edef\Fld@width{\the\@tempdima}%
10065 \fi
10066 \ifFld@combo
10067 \else
10068 \@tempdima=\the\Fld@menulength\Fld@charsize
10069 \advance\@tempdima by \Fld@borderwidth bp %
10070 \advance\@tempdima by \Fld@borderwidth bp %
10071 \edef\Fld@height{\the\@tempdima}%
10072 \fi
10073 \@@ListBox{#3}%
10074 \endgroup
10075 \fi
10076 }%
10077 \endgroup
10078 }
10079 \def\@@Radio#1{%
10080 \Fld@listcount=0 %
10081 \@for\@curropt:=#1\do{%
10082 \expandafter\Fld@checkequals\@curropt==\%
10083 \Hy@StepCount\Fld@listcount
10084 \@currDisplay\space
10085 \Hy@escapeform\PDFForm@Radio
10086 \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%

```

```

10087         pdfmark=/ANN,%
10088         Raw={\PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>}%
10089     } % deliberate space between radio buttons
10090 }%
10091 }
10092 \newcount\Fld@listcount
10093 \def\@@ListBox#1{%
10094     \HyField@PDFChoices{#1}%
10095     \Hy@escapeform\PDFForm@List
10096     \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
10097         pdfmark=/ANN,Raw={\PDFForm@List}%
10098     }%
10099 }
10100 \def\@PushButton[#1]#2{% parameters, label
10101     \def\Fld@name{#2}%
10102     \begingroup
10103         \Field@toks={ }%
10104         \expandafter\HyField@SetKeys\expandafter{%
10105             \DefaultOptionsofPushButton,#1%
10106         }%
10107         \ifHy@pdfa
10108             \PackageError{hyperref}{%
10109                 PDF/A: Push button with JavaScript is prohibited%
10110             }{@ehc}
10111             \LayoutPushButtonField{%
10112                 \leavevmode
10113                 \MakeButtonField{#2}%
10114             }%
10115         \else
10116             \HyField@FlagsPushButton
10117             \ifFld@hidden\def\Fld@width{1sp}\fi
10118             \LayoutPushButtonField{%
10119                 \leavevmode
10120                 \Hy@escapeform\PDFForm@Push
10121                 \pdfmark[\MakeButtonField{#2}]{%
10122                     pdfmark=/ANN,Raw={\PDFForm@Push}%
10123                 }%
10124             }%
10125         \fi
10126     \endgroup
10127 }
10128 \def\@Submit[#1]#2{%
10129     \Field@toks={ }%
10130     \def\Fld@width{\DefaultWidthofSubmit}%
10131     \def\Fld@height{\DefaultHeightofSubmit}%
10132     \begingroup
10133         \expandafter\HyField@SetKeys\expandafter{%
10134             \DefaultOptionsofSubmit,#1%
10135         }%
10136         \HyField@FlagsPushButton
10137         \HyField@FlagsSubmit
10138         \ifFld@hidden\def\Fld@width{1sp}\fi
10139         \Hy@escapeform\PDFForm@Submit
10140         \pdfmark[\MakeButtonField{#2}]{%
10141             pdfmark=/ANN,%
10142             Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}%
10143         }%

```



```

10144 \endgroup
10145 }
10146 \def\@Reset[#1]#2{%
10147   \Field@toks={ }%
10148   \def\Fld@width{\DefaultWidthofReset}%
10149   \def\Fld@height{\DefaultHeightofReset}%
10150   \begingroup
10151     \expandafter\HyField@SetKeys\expandafter{%
10152       \DefaultOptionsofReset,#1%
10153     }%
10154     \leavevmode
10155     \ifHy@pdfa
10156       \PackageError{hyperref}{%
10157         PDF/A: Reset action is prohibited%
10158       }\@ehc
10159       \MakeButtonField{#2}%
10160     \else
10161       \HyField@FlagsPushButton
10162       \ifFld@hidden\def\Fld@width{1sp}\fi
10163       \Hy@escapeform\PDFForm@Reset
10164       \pdfmark[\MakeButtonField{#2}]{%
10165         pdfmark=/ANN,Raw={\PDFForm@Reset}%
10166       }%
10167     \fi
10168   \endgroup
10169 }%
10170 \def\@CheckBox[#1]#2{% parameters, label
10171   \def\Fld@name{#2}%
10172   \def\Fld@default{0}%
10173   \begingroup
10174     \def\Fld@width{\DefaultWidthofCheckBox}%
10175     \def\Fld@height{\DefaultHeightofCheckBox}%
10176     \Field@toks={ }%
10177     \expandafter\HyField@SetKeys\expandafter{%
10178       \DefaultOptionsofCheckBox,#1%
10179     }%
10180     \HyField@FlagsCheckBox
10181     \ifFld@hidden\def\Fld@width{1sp}\fi
10182     \LayoutCheckField{#2}{%
10183       \Hy@escapeform\PDFForm@Check
10184       \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
10185         pdfmark=/ANN,Raw={\PDFForm@Check}%
10186       }%
10187     }%
10188   \endgroup
10189 }
10190 \pdfmark>

```

47.2 HyperTeX

```

10191 <*hypertex>
10192 \def\@Form[#1]{\typeout{Sorry, HyperTeX does not support FORMs}}
10193 \def\@endForm{}
10194 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10195   \typeout{Sorry, HyperTeX does not support FORM gauges}%
10196 }
10197 \def\@TextField[#1]#2{% parameters, label
10198   \typeout{Sorry, HyperTeX does not support FORM text fields}%

```

```

10199 }
10200 \def\@CheckBox[#1]#2{% parameters, label
10201 \typeout{Sorry, HyperTeX does not support FORM checkboxes}%
10202 }
10203 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10204 \typeout{Sorry, HyperTeX does not support FORM choice menus}%
10205 }
10206 \def\@PushButton[#1]#2{% parameters, label
10207 \typeout{Sorry, HyperTeX does not support FORM pushbuttons}%
10208 }
10209 \def\@Reset[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
10210 \def\@Submit[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
10211 \</hypertext>

```

47.3 TeX4ht

```

10212 \<tex4ht>
10213 \def\@Form[#1]{%
10214 \setkeys{Form}{#1}%
10215 \HCode{<form action="\Form@action" method="\Form@method">%
10216 }
10217 \def\@endForm{\HCode{</form>}}
10218 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10219 \typeout{Sorry, TeX4ht does not support gauges}%
10220 }
10221 \def\@TextField[#1]#2{% parameters, label
10222 \let\Hy@reserved@a\@empty
10223 \def\Fld@name{#2}%
10224 \def\Fld@default{}%
10225 \bgroup
10226 \Field@toks={ }%
10227 \setkeys{Field}{#1}%
10228 \HCode{<label for="\Fld@name">#2</label>%
10229 \ifFld@password
10230 \@@PasswordField
10231 \else
10232 \@@TextField
10233 \fi
10234 \egroup
10235 }
10236 \def\@@PasswordField{%
10237 \HCode{%
10238 <input type="password" %
10239 id="\Fld@name" %
10240 name="\Fld@name" %
10241 \ifFld@hidden type="hidden" \fi
10242 value="\Fld@default" %
10243 \the\Field@toks
10244 >%
10245 }%
10246 }
10247 \def\@@TextField{%
10248 \ifFld@multiline
10249 \HCode{<textarea %
10250 \ifFld@readonly readonly \fi
10251 id="\Fld@name" %
10252 name="\Fld@name" %
10253 \ifFld@hidden type="hidden" \fi

```

```

10254     \the\Field@toks>%
10255   }%
10256   \Fld@default
10257   \HCode{</textarea>}%
10258 \else
10259   \HCode{<input type="text" %
10260     \ifFld@readonly readonly \fi
10261     id="\Fld@name" %
10262     name="\Fld@name" %
10263     \ifFld@hidden type="hidden" \fi
10264     value="\Fld@default" %
10265     \the\Field@toks>%
10266   }%
10267 \fi
10268 }
10269 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10270   \def\Fld@name{#2}%
10271   \def\Fld@default{}%
10272   \let\Hy@reserved@a\relax
10273   \begingroup
10274     \expandafter\Fld@findlength#3\\%
10275     \Field@toks={ }%
10276     \setkeys{Field}{#1}%
10277     #2%
10278     \ifFld@radio
10279       \expandafter\@@Radio#3\\%
10280     \else
10281       \expandafter\@@Menu#3\\%
10282     \fi
10283   \endgroup
10284 }
10285 \def\Fld@findlength#1\\{%
10286   \Fld@menulength=0 %
10287   \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
10288 }
10289 \def\@@Menu#1\\{%
10290   \HCode{<select size="\the\Fld@menulength" %
10291     name="\Fld@name" %
10292     \the\Field@toks>%
10293   }%
10294   \@for\@curropt:=#1\do{%
10295     \expandafter\Fld@checkequals\@curropt==\\%
10296     \HCode{<option %
10297       \ifx\@curropt\Fld@default selected \fi
10298       value="\@currValue">\@currDisplay</option>%
10299     }%
10300   }%
10301   \HCode{</select>}%
10302 }
10303 \def\@@Radio#1\\{%
10304   \@for\@curropt:=#1\do{%
10305     \expandafter\Fld@checkequals\@curropt==\\%
10306     \HCode{<input type="radio" %
10307       \ifx\@curropt\Fld@default checked \fi
10308       name="\Fld@name" %
10309       value="\@currValue" %
10310       \the\Field@toks>%

```

```

10311    }%
10312    \@currDisplay
10313  }%
10314 }
10315 \def\@PushButton[#1]#2{% parameters, label
10316   \def\Fld@name{#2}%
10317   \bgroup
10318     \Field@toks={ }%
10319     \setkeys{Field}{#1}%
10320     \HCode{<input type="button" %
10321       name="\Fld@name" %
10322       value="#2" %
10323       \the\Field@toks>%
10324     }%
10325     \HCode{</button>}%
10326   \egroup
10327 }
10328 \def\@Submit[#1]#2{%
10329   \HCode{<button type="submit">#2</button>}%
10330 }
10331 \def\@Reset[#1]#2{%
10332   \HCode{<button type="reset">#2</button>}%
10333 }
10334 \def\@CheckBox[#1]#2{% parameters, label
10335   \let\Hy@reserved@a\@empty
10336   \def\Fld@name{#2}%
10337   \def\Fld@default{0}%
10338   \bgroup
10339     \Field@toks={ }%
10340     \setkeys{Field}{#1}%
10341     \HCode{<input type="checkbox" %
10342       \ifFld@checked checked \fi
10343       \ifFld@disabled disabled \fi
10344       \ifFld@readonly readonly \fi
10345       name="\Fld@name" %
10346       \ifFld@hidden type="hidden" \fi
10347       value="\Fld@default" %
10348       \the\Field@toks>%
10349     #2%
10350   }%
10351   \egroup
10352 }
10353 </tex4ht>

```

47.4 pdfTeX

```

10354 <*pdfTeX>
10355 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10356   \typeout{Sorry, pdfTeX does not support FORM gauges}%
10357 }
10358 \def\MakeFieldObject#1#2{\sbox0{#1}%
10359   \immediate\pdfxform0 %
10360   \expandafter\edef\csname #2Object\endcsname{%
10361     \the\pdflastxform\space 0 R%
10362   }%
10363   % \hbox to Opt{\hskip-\maxdimen{\pdfrefxform \the\pdflastxform}}%
10364 }%
10365 \def\@Form[#1]{%

```

```

10366 \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
10367 \setkeys{Form}{#1}%
10368 \ifnum\pdftexversion>13 %
10369   \pdfrefobj\OBJ@pdfdocencoding
10370   \pdfrefobj\OBJ@ZaDb
10371   \pdfrefobj\OBJ@Helv
10372   \pdfrefobj\OBJ@acroform
10373 \fi
10374 \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
10375 \MakeFieldObject{%

```

Same as \ding{123} of package pifont.

```

10376   \begingroup
10377     \fontfamily{pzd}%
10378     \fontencoding{U}%
10379     \fontseries{m}%
10380     \fontshape{n}%
10381     \selectfont
10382     \char123 %
10383   \endgroup
10384 }{Ding}%
10385 \MakeFieldObject{%
10386   \fbox{\textcolor{yellow}{\textsf{Submit}}}%
10387 }{Submit}%
10388 \MakeFieldObject{%
10389   \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
10390 }{SubmitP}%
10391 }
10392 \def\@endForm{}
10393 \def\@TextField[#1]#2{% parameters, label
10394   \def\Fld@name{#2}%
10395   \def\Fld@default{}%
10396   \let\Fld@value\@empty
10397   \def\Fld@width{\DefaultWidthofText}%
10398   \def\Fld@height{%
10399     \ifFld@multiline
10400       \DefaultHeightofTextMultiline
10401     \else
10402       \DefaultHeightofText
10403     \fi
10404   }%
10405   \begingroup
10406     \Field@toks={ }%
10407     \expandafter\HyField@SetKeys\expandafter{%
10408       \DefaultOptionsofText,#1%
10409     }%
10410     \PDFForm@Name
10411     \HyField@FlagsText
10412     \ifFld@hidden\def\Fld@width{1sp}\fi
10413     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
10414     \LayoutTextField{#2}{%
10415       \Hy@escapeform\PDFForm@Text
10416       \pdfstartlink user {\PDFForm@Text}\relax
10417       \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
10418     }%
10419   \endgroup
10420 }
10421 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices

```

```

10422 \def\Fld@name{#2}%
10423 \let\Fld@default\relax
10424 \let\Fld@value\relax
10425 \def\Fld@width{\DefaultWidthofChoiceMenu}%
10426 \def\Fld@height{\DefaultHeightofChoiceMenu}%
10427 \begingroup
10428   \Fld@menulength=0 %
10429   \@tempdima\z@
10430   \for\@curropt:=#3\do{%
10431     \expandafter\Fld@checkequals\@curropt==\%
10432     \Hy@StepCount\Fld@menulength
10433     \settowidth{\@tempdimb}{\@currDisplay}%
10434     \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
10435   }%
10436   \advance\@tempdima by 15\p@
10437   \Field@toks={ }%
10438   \begingroup
10439     \HyField@SetKeys{#1}%
10440   \edef\x{\endgroup
10441     \noexpand\expandafter
10442     \noexpand\HyField@SetKeys
10443     \noexpand\expandafter{%
10444       \expandafter\noexpand\csname DefaultOptionsof%
10445         \ifFld@radio
10446           Radio%
10447         \else
10448           \ifFld@combo
10449             \ifFld@popdown
10450               PopdownBox%
10451             \else
10452               ComboBox%
10453             \fi
10454           \else
10455             ListBox%
10456           \fi
10457         \fi
10458       \endcsname
10459     }%
10460   }\x
10461   \HyField@SetKeys{#1}%
10462   \PDFForm@Name
10463   \ifFld@hidden\def\Fld@width{1sp}\fi
10464   \ifx\Fld@value\relax
10465     \let\Fld@value\Fld@default
10466   \fi
10467   \LayoutChoiceField{#2}{%
10468     \ifFld@radio
10469       \HyField@FlagsRadioButton
10470       \@@Radio{#3}%
10471     \else
10472       \begingroup
10473         \HyField@FlagsChoice
10474         \ifdim\Fld@width<\@tempdima
10475           \ifdim\@tempdima<1cm\@tempdima1cm\fi
10476         \edef\Fld@width{\the\@tempdima}%
10477       \fi
10478       \ifFld@combo

```

```

10479         \else
10480             \@tempdima=\the\Fld@menulength\Fld@charsize
10481             \advance\@tempdima by \Fld@borderwidth bp %
10482             \advance\@tempdima by \Fld@borderwidth bp %
10483             \edef\Fld@height{\the\@tempdima}%
10484         \fi
10485         \@@ListBox{#3}%
10486     \endgroup
10487 \fi
10488 }%
10489 \endgroup
10490 }
10491 \def\@@Radio#1{%
10492     \Fld@listcount=0 %
10493     \@for\@curropt:=#1\do{%
10494         \expandafter\Fld@checkequals\@curropt==\%
10495         \Hy@StepCount\Fld@listcount
10496         \currDisplay\space
10497         \leavevmode
10498         \Hy@escapeform\PDFForm@Radio
10499         \pdfstartlink user {%
10500             \PDFForm@Radio
10501             /AP<<%
10502             /N<<%

```

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.

```

10503         /\@currValue\space \DingObject
10504         >>%
10505     >>%
10506 }%
10507 \relax
10508 \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
10509 \space % deliberate space between radio buttons
10510 }%
10511 }
10512 \newcount\Fld@listcount
10513 \def\@@ListBox#1{%
10514     \HyField@PDFChoices{#1}%
10515     \leavevmode
10516     \Hy@escapeform\PDFForm@List
10517     \pdfstartlink user {\PDFForm@List}\relax
10518     \MakeChoiceField{\Fld@width}{\Fld@height}%
10519     \pdfendlink
10520 }
10521 \def\@PushButton[#1]#2{% parameters, label
10522     \def\Fld@name{#2}%
10523     \begingroup
10524         \Field@toks={ }%
10525         \expandafter\HyField@SetKeys\expandafter{%
10526             \DefaultOptionsofPushButton,#1%
10527         }%
10528         \PDFForm@Name
10529         \ifHy@pdfa
10530             \PackageError{hyperref}{%
10531                 PDF/A: Push button with JavaScript is prohibited%
10532             }\@ehc

```

```

10533     \LayoutPushButtonField{%
10534     \leavevmode
10535     \MakeButtonField{#2}%
10536     }%
10537 \else
10538     \HyField@FlagsPushButton
10539     \ifFld@hidden\def\Fld@width{1sp}\fi
10540     \LayoutPushButtonField{%
10541     \leavevmode
10542     \Hy@escapeform\PDFForm@Push
10543     \pdfstartlink user {\PDFForm@Push}\relax
10544     \MakeButtonField{#2}%
10545     \pdfendlink
10546     }%
10547 \fi
10548 \endgroup
10549 }
10550 \def\@Submit[#1]#2{%
10551     \Field@toks={ }%
10552     \def\Fld@width{\DefaultWidthofSubmit}%
10553     \def\Fld@height{\DefaultHeightofSubmit}%
10554     \begingroup
10555     \expandafter\HyField@SetKeys\expandafter{%
10556     \DefaultOptionsofSubmit,#1%
10557     }%
10558     \HyField@FlagsPushButton
10559     \HyField@FlagsSubmit
10560     \ifFld@hidden\def\Fld@width{1sp}\fi
10561     \leavevmode
10562     \Hy@escapeform\PDFForm@Submit
10563     \pdfstartlink user {%
10564     \PDFForm@Submit
10565     /AP<</N \SubmitObject/D \SubmitPObject>>%
10566     }%
10567     \relax
10568     \MakeButtonField{#2}%
10569     \pdfendlink
10570 \endgroup
10571 }
10572 \def\@Reset[#1]#2{%
10573     \Field@toks={ }%
10574     \def\Fld@width{\DefaultWidthofReset}%
10575     \def\Fld@height{\DefaultHeightofReset}%
10576     \begingroup
10577     \expandafter\HyField@SetKeys\expandafter{%
10578     \DefaultOptionsofReset,#1%
10579     }%
10580     \leavevmode
10581     \ifHy@pdfa
10582     \PackageError{hyperref}{%
10583     PDF/A: Reset action is prohibited%
10584     }\@ehc
10585     \MakeButtonField{#2}%
10586 \else
10587     \HyField@FlagsPushButton
10588     \ifFld@hidden\def\Fld@width{1sp}\fi
10589     \Hy@escapeform\PDFForm@Reset

```



```

10590     \pdfstartlink user {\PDFForm@Reset}\relax
10591     \MakeButtonField{#2}%
10592     \pdfendlink
10593     \fi
10594 \endgroup
10595 }
10596 \def\@CheckBox[#1]#2{% parameters, label
10597     \def\Fld@name{#2}%
10598     \def\Fld@default{0}%
10599     \begingroup
10600         \def\Fld@width{\DefaultWidthofCheckBox}%
10601         \def\Fld@height{\DefaultHeightofCheckBox}%
10602         \Field@toks={ }%
10603         \expandafter\HyField@SetKeys\expandafter{%
10604             \DefaultOptionsofCheckBox,#1%
10605         }%
10606         \PDFForm@Name
10607         \HyField@FlagsCheckBox
10608         \ifFld@hidden\def\Fld@width{1sp}\fi
10609         \LayoutCheckField{#2}{%
10610             \Hy@escapeform\PDFForm@Check
10611             \pdfstartlink user {\PDFForm@Check}\relax
10612             \MakeCheckField{\Fld@width}{\Fld@height}%
10613             \pdfendlink
10614         }%
10615     \endgroup
10616 }
10617 \pdfobj {%
10618 <<%
10619     /Type/Encoding%
10620     /Differences[%
10621         24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
10622         /ring/tilde %
10623         39/quotesingle %
10624         96/grave %
10625         128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
10626         /fraction/guilsinglleft/guilsinglright/minus/perthousand%
10627         /quotedblbase/quotedblleft/quotedblright/quoteleft%
10628         /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
10629         /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
10630         164/currency %
10631         166/brokenbar %
10632         168/dieresis/copyright/ordfeminine %
10633         172/logicalnot/.notdef/registered/macron/degree/plusminus%
10634         /twosuperior/threesuperior/acute/mu %
10635         183/periodcentered/cedilla/onesuperior/ordmasculine %
10636         188/onequarter/onehalf/threequarters %
10637         192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
10638         /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
10639         /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
10640         /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
10641         /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
10642         /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
10643         /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
10644         /iacute/icircumflex/idieresis/eth/ntilde/ograve/oacute%
10645         /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
10646         /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%

```

```

10647    ]%
10648    >>%
10649 }
10650 \edef\OBJ@pdfdocencoding{\the\pdflastobj}
10651 \pdfobj{%
10652   <<%
10653     /Type/Font%
10654     /Subtype/Type1%
10655     /Name/ZaDb%
10656     /BaseFont/ZapfDingbats%
10657   >>%
10658 }
10659 \edef\OBJ@ZaDb{\the\pdflastobj}
10660 \pdfobj{%
10661   <<%
10662     /Type/Font%
10663     /Subtype/Type1%
10664     /Name/Helv%
10665     /BaseFont/Helvetica%
10666     /Encoding \OBJ@pdfdocencoding\space 0 R%
10667   >>%
10668 }
10669 \edef\OBJ@Helv{\the\pdflastobj}
10670 \pdfobj{%
10671   <<%
10672     /Fields[]%
10673     /DR<<%
10674       /Font<<%
10675         /ZaDb \OBJ@ZaDb\space 0 R%
10676         /Helv \OBJ@Helv\space 0 R%
10677       >>%
10678     >>%
10679     /DA(/Helv 10 Tf 0 g)%
10680     \ifHy@pdfa
10681     \else
10682       /NeedAppearances true%
10683     \fi
10684   >>%
10685 }
10686 \edef\OBJ@acroform{\the\pdflastobj}
10687 \pdfobj{</pdfobj>}

```

47.5 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.

```
10688 < *dvipdfm >
```

\@Gauge

```

10689 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10690   \typeout{Sorry, dvipdfm does not support FORM gauges}%
10691 }

```

\@Form

```

10692 \def\@Form[#1]{%
10693   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
10694   \setkeys{Form}{#1}%

```

```

10695 \@pdfm@mark{obj @afields []}%
10696 \@pdfm@mark{obj @corder []}%
10697 \@pdfm@mark{%
10698     obj @aform <<%
10699     /Fields @afields%
10700     /DR<<%
10701     /Font<<%
10702     /ZaDb @OBJZaDb%
10703     /Helv @OBJHelv%
10704     >>%
10705     >>%
10706     /DA(/Helv 10 Tf 0 g)%
10707     /CO @corder%
10708     \ifHy@pdfa
10709     \else
10710     /NeedAppearances true%
10711     \fi
10712     >>%
10713 }%
10714 \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
10715 }

\@endForm

10716 \def\@endForm{ }

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.
10717 \def\dvipdfm@setdim{%
10718     height \the\ht\pdfm@box\space
10719     width \the\wd\pdfm@box\space
10720     depth \the\dp\pdfm@box\space
10721 }

\HyField@AnnotCount
10722 \newcount\HyField@AnnotCount
10723 \HyField@AnnotCount=\z@

\HyField@AdvanceAnnotCount
10724 \def\HyField@AdvanceAnnotCount{%
10725     \global\advance\HyField@AnnotCount\@ne
10726 }

\HyField@TheAnnotCount
10727 \def\HyField@TheAnnotCount{%
10728     \the\HyField@AnnotCount
10729 }

\@TextField
10730 \def\@TextField[#1]#2{% parameters, label
10731     \def\Fld@name{#2}%
10732     \def\Fld@default{ }%
10733     \let\Fld@value\@empty
10734     \def\Fld@width{\DefaultWidthofText}%
10735     \def\Fld@height{%
10736         \ifFld@multiline
10737             \DefaultHeightofTextMultiline
10738         \else

```

```

10739     \DefaultHeightofText
10740     \fi
10741 }%
10742 \beginngroup
10743     \Field@toks={ }%
10744     \expandafter\HyField@SetKeys\expandafter{%
10745         \DefaultOptionsofText,#1%
10746     }%
10747     \PDFForm@Name
10748     \HyField@FlagsText
10749     \ifFld@hidden\def\Fld@width{1sp}\fi
10750     \ifx\Fld@value\empty\def\Fld@value{\Fld@default}\fi
10751     \setbox\pdfm@box=\hbox{%
10752         \MakeTextField{\Fld@width}{\Fld@height}%
10753     }%
10754     \HyField@AdvanceAnnotCount
10755     \LayoutTextField{#2}{%
10756         \Hy@escapeform\PDFForm@Text
10757         \@pdfm@mark{%
10758             ann @text\HyField@TheAnnotCount\space
10759             \dvipdfm@setdim << \PDFForm@Text >>%
10760         }%
10761     }%
10762     \unhbox\pdfm@box
10763     \@pdfm@mark{put @afields @text\HyField@TheAnnotCount}%
10764     % record in @afields array
10765 \endgroup
10766 }

```

\@ChoiceMenu

```

10767 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10768     \def\Fld@name{#2}%
10769     \let\Fld@default\relax
10770     \let\Fld@value\relax
10771     \def\Fld@width{\DefaultWidthofChoiceMenu}%
10772     \def\Fld@height{\DefaultHeightofChoiceMenu}%
10773     \beginngroup
10774         \Fld@menulength=0 %
10775         \@tempdima\z@
10776         \@for\@curropt:=#3\do{%
10777             \expandafter\Fld@checkequals\@curropt==\%
10778             \Hy@StepCount\Fld@menulength
10779             \settowidth{\@tempdimb}{\@currDisplay}%
10780             \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
10781         }%
10782         \advance\@tempdima by 15\p@
10783         \Field@toks={ }%
10784         \beginngroup
10785             \HyField@SetKeys{#1}%
10786         \edef\x{\endgroup
10787             \noexpand\expandafter
10788             \noexpand\HyField@SetKeys
10789             \noexpand\expandafter{%
10790                 \expandafter\noexpand\curname DefaultOptionsof%
10791                 \ifFld@radio
10792                     Radio%
10793                 \else

```

```

10794         \ifFld@combo
10795         \ifFld@popdown
10796             PopdownBox%
10797         \else
10798             ComboBox%
10799         \fi
10800     \else
10801         ListBox%
10802     \fi
10803 \fi
10804 \endcsname
10805 }%
10806 }\x
10807 \HyField@SetKeys{#1}%
10808 \PDFForm@Name
10809 \ifFld@hidden\def\Fld@width{1sp}\fi
10810 \ifx\Fld@value\relax
10811     \let\Fld@value\Fld@default
10812 \fi
10813 \LayoutChoiceField{#2}{%
10814     \ifFld@radio
10815         \HyField@FlagsRadioButton
10816         \@@Radio{#3}%
10817     \else
10818         \beginngroup
10819             \HyField@FlagsChoice
10820             \ifdim\Fld@width<\@tempdima
10821                 \ifdim\@tempdima<1cm\@tempdima1cm\fi
10822                 \edef\Fld@width{\the\@tempdima}%
10823             \fi
10824             \ifFld@combo
10825             \else
10826                 \@tempdima=\the\Fld@menulength\Fld@charsize
10827                 \advance\@tempdima by \Fld@borderwidth bp %
10828                 \advance\@tempdima by \Fld@borderwidth bp %
10829                 \edef\Fld@height{\the\@tempdima}%
10830             \fi
10831             \@@Listbox{#3}%
10832         \endgroup
10833     \fi
10834 }%
10835 \endgroup
10836 }

```

\@@Radio

```

10837 \def\@@Radio#1{%
10838     \Fld@listcount=0 %
10839     \setbox\pdfm@box=\hbox{\MakeRadioField{\Fld@width}{\Fld@height}}%
10840     \@for\@curropt:=#1\do{%
10841         \expandafter\Fld@checkequals\@curropt==\%
10842         \Hy@StepCount\Fld@listcount
10843         \@currDisplay\space
10844         \leavevmode
10845         \Hy@escapeform\PDFForm@Radio
10846         \ifnum\Fld@listcount=1 %
10847             \HyField@AdvanceAnnotCount
10848         \fi

```

```

10849 \pdfmark{%
10850   ann \ifnum\Fld@listcount=1 @radio\HyField@TheAnnotCount\space\fi
10851   \dvipdfm@setdim
10852   <<%
10853   \PDFForm@Radio
10854   /AP<</N<</\@currValue /null>>>>%
10855   >>%
10856   }%
10857   \unhcopy\pdfm@box\space% deliberate space between radio buttons
10858   \ifnum\Fld@listcount=1 %
10859   \pdfmark{put @afields @radio\HyField@TheAnnotCount}%
10860   \fi
10861   }%
10862 }

\Fld@listcount

10863 \newcount\Fld@listcount

@@@Listbox

10864 \def\@@Listbox#1{%
10865   \HyField@PDFChoices{#1}%
10866   \setbox\pdfm@box=\hbox{\MakeChoiceField{\Fld@width}{\Fld@height}}%
10867   \leavevmode
10868   \Hy@escapeform\PDFForm@List
10869   \HyField@AdvanceAnnotCount
10870   \pdfmark{%
10871     ann @list\HyField@TheAnnotCount\space
10872     \dvipdfm@setdim
10873     <<\PDFForm@List>>%
10874     }%
10875     \unhbox\pdfm@box
10876     \pdfmark{put @afields @list\HyField@TheAnnotCount}%
10877   }

@@@PushButton

10878 \def\@PushButton[#1]#2{% parameters, label
10879   \def\Fld@name{#2}%
10880   \begingroup
10881     \Field@toks={ }%
10882     \expandafter\HyField@SetKeys\expandafter{%
10883       \DefaultOptionsofPushButton,#1%
10884     }%
10885     \PDFForm@Name
10886     \ifHy@pdfa
10887       \PackageError{hyperref}{%
10888         PDF/A: Push button with JavaScript is prohibited%
10889       }\@ehc
10890       \LayoutPushButtonField{%
10891         \leavevmode
10892         \MakeButtonField{#2}%
10893       }%
10894     \else
10895       \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
10896       \HyField@FlagsPushButton
10897       \ifFld@hidden\def\Fld@width{1sp}\fi
10898       \HyField@AdvanceAnnotCount
10899       \LayoutPushButtonField{%

```

```

10900         \leavevmode
10901         \Hy@escapeform\PDFForm@Push
10902         \@pdfm@mark{%
10903             ann @push\HyField@TheAnnotCount\space
10904             \dvipdfm@setdim
10905             <<\PDFForm@Push>>%
10906         }%
10907     }%
10908     \unhbox\pdfm@box
10909     \@pdfm@mark{put @afields @push\HyField@TheAnnotCount}%
10910     \fi
10911 \endgroup
10912 }

\@Submit
10913 \def\@Submit[#1]#2{%
10914     \Field@toks={ }%
10915     \def\Fld@width{\DefaultWidthofSubmit}%
10916     \def\Fld@height{\DefaultHeightofSubmit}%
10917     \begingroup
10918         \expandafter\HyField@SetKeys\expandafter{%
10919             \DefaultOptionsofSubmit,#1%
10920         }%
10921         \HyField@FlagsPushButton
10922         \HyField@FlagsSubmit
10923         \ifFld@hidden\def\Fld@width{1sp}\fi
10924         \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
10925         \leavevmode
10926         \Hy@escapeform\PDFForm@Submit
10927         \HyField@AdvanceAnnotCount
10928         \@pdfm@mark{%
10929             ann @submit\HyField@TheAnnotCount\space
10930             \dvipdfm@setdim
10931             <<\PDFForm@Submit>>%
10932         }%
10933         \unhbox\pdfm@box%
10934         \@pdfm@mark{put @afields @submit\HyField@TheAnnotCount}%
10935     \endgroup
10936 }

\@Reset
10937 \def\@Reset[#1]#2{%
10938     \Field@toks={ }%
10939     \def\Fld@width{\DefaultWidthofReset}%
10940     \def\Fld@height{\DefaultHeightofReset}%
10941     \begingroup
10942         \expandafter\HyField@SetKeys\expandafter{%
10943             \DefaultOptionsofReset,#1%
10944         }%
10945         \leavevmode
10946         \ifHy@pdfa
10947             \PackageError{hyperref}{%
10948                 PDF/A: Reset action is prohibited%
10949             }\@ehc
10950             \MakeButtonField{#2}%
10951         \else
10952             \HyField@FlagsPushButton

```

```

10953 \ifFld@hidden\def\Fld@width{1sp}\fi
10954 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
10955 \Hy@escapeform\PDFForm@Reset
10956 \HyField@AdvanceAnnotCount
10957 \@pdfm@mark{%
10958     ann @reset\HyField@TheAnnotCount\space
10959     \dvipdfm@setdim
10960     <<\PDFForm@Reset>>%
10961 }%
10962 \unhbox\pdfm@box
10963 \@pdfm@mark{put @afields @reset\HyField@TheAnnotCount}%
10964 \fi
10965 \endgroup
10966 }

```

\@CheckBox

```

10967 \def\@CheckBox[#1]#2{% parameters, label
10968     \def\Fld@name{#2}%
10969     \def\Fld@default{0}%
10970     \begingroup
10971         \def\Fld@width{\DefaultWidthofCheckBox}%
10972         \def\Fld@height{\DefaultHeightofCheckBox}%
10973         \Field@toks={ }%
10974         \expandafter\HyField@SetKeys\expandafter{%
10975             \DefaultOptionsofCheckBox,#1%
10976         }%
10977         \PDFForm@Name
10978         \HyField@FlagsCheckBox
10979         \ifFld@hidden\def\Fld@width{1sp}\fi
10980         \setbox\pdfm@box=\hbox{\MakeCheckField{\Fld@width}{\Fld@height}}%
10981         \HyField@AdvanceAnnotCount
10982         \LayoutCheckField{#2}{%
10983             \Hy@escapeform\PDFForm@Check
10984             \@pdfm@mark{%
10985                 ann @check\HyField@TheAnnotCount\space
10986                 \dvipdfm@setdim
10987                 <<\PDFForm@Check>>%
10988             }%
10989             \unhbox\pdfm@box
10990             \@pdfm@mark{put @afields @check\HyField@TheAnnotCount}%
10991         }%
10992     \endgroup
10993 }

10994 \@pdfm@mark{obj @OBJpdfdocencoding%
10995     <<%
10996         /Type/Encoding%
10997         /Differences[%
10998             24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
10999             39/quotesingle %
11000             96/grave %
11001             128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
11002             /fraction/guilsinglleft/guilsinglright/minus/perthousand%
11003             /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
11004             /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
11005             /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
11006             164/currency %
11007             166/brokenbar %

```



```

11008      168/dieresis/copyright/ordfeminine %
11009      172/logicalnot/.notdef/registered/macron/degree/plusminus%
11010      /twosuperior/threesuperior/acute/mu %
11011      183/periodcentered/cedilla/onesuperior/ordmasculine %
11012      188/onequarter/onehalf/threequarters %
11013      192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
11014      /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
11015      /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
11016      /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
11017      /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
11018      /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
11019      /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
11020      /eth/ntilde/ograde/oacute/ocircumflex/otilde/odieresis%
11021      /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
11022      /thorn/ydieresis%
11023      ]%
11024      >>%
11025 }
11026 \pdfmark{obj @OBJZaDb%
11027 <<%
11028     /Type/Font%
11029     /Subtype/Type1%
11030     /Name/ZaDb%
11031     /BaseFont/ZapfDingbats%
11032     >>%
11033 }
11034 \pdfmark{obj @OBJHelv%
11035 <<%
11036     /Type/Font%
11037     /Subtype/Type1%
11038     /Name/Helv%
11039     /BaseFont/Helvetica%
11040     /Encoding @OBJpdfdocencoding%
11041     >>%
11042 }
11043 </dvipdfm>

```

47.6 Common forms part

```
11044 <*pdfform>
```

\Hy@escapestring

```

11045 \begingroup\expandafter\expandafter\expandafter\endgroup
11046 \expandafter\ifx\csname pdfescapestring\endcsname\relax
11047   \let\Hy@escapestring\@firstofone
11048   \def\Hy@escapeform#1{%
11049     \ifHy@escapeform
11050       \def\Hy@escapestring##1{%
11051         \noexpand\Hy@escapestring{\noexpand##1}%
11052       }%
11053     \edef\Hy@temp{#1}%
11054     \expandafter\Hy@@escapeform\Hy@temp\Hy@escapestring{}\@nil
11055     \def\Hy@escapestring##1{%
11056       \@ifundefined{Hy@esc@\string##1}{%
11057         ##1%
11058       }\ThisShouldNotHappen
11059     }{%

```

```

11060         \csname Hy@esc@\string##1\endcsname
11061     }%
11062 }%
11063 \else
11064     \let\Hy@escapestring\@firstofone
11065 \fi
11066 }%
11067 \def\Hy@@escapeform#1\Hy@escapestring#2#3\@nil{%
11068     \ifx\#3\%
11069     \else
11070         \expandafter\Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
11071         \Hy@ReturnAfterFi{%
11072             \Hy@@escapeform#3\@nil
11073         }%
11074     \fi
11075 }%
11076 \else
11077 \def\Hy@escapeform#1{%
11078     \ifHy@escapeform
11079         \let\Hy@escapestring\pdfescapestring
11080     \else
11081         \let\Hy@escapestring\@firstofone
11082     \fi
11083 }%
11084 \Hy@escapeform{}%
11085 \fi

```

\PDFForm@Name

```

11086 \def\PDFForm@Name{%
11087     \begingroup
11088         \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
11089             \ifHy@unicode
11090                 \Hy@unicodedefalse
11091             \fi
11092         \fi
11093         \pdfstringdef\Hy@gtemp\Fld@name
11094     \endgroup
11095     \let\Fld@name\Hy@gtemp
11096 }

```

\PDFForm@Check

```

11097 \def\PDFForm@Check{%
11098     /Subtype/Widget%
11099     \Fld@annotflags
11100     /T(\Fld@name)%
11101     /FT/Btn%
11102     \Fld@flags
11103     /Q \Fld@align
11104     /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
11105     /MK<<%
11106         \ifnum\Fld@rotation=\z@
11107         \else
11108             /R \Fld@rotation
11109         \fi
11110         \ifx\Fld@bordercolor\relax
11111         \else
11112             /BC[\Fld@bordercolor]%

```

```

11113 \fi
11114 \ifx\Fld@bcolor\relax
11115 \else
11116 /BG[\Fld@bcolor]%
11117 \fi
11118 /CA(\Hy@escapestring{\Fld@cbsymbol})%
11119 >>%
11120 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
11121 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11122 /H/P%
11123 \ifFld@checked /V/Yes\else /V/Off\fi
11124 }

```

\PDFForm@Push

```

11125 \ifHy@pdfa
11126 \else
11127 \def\PDFForm@Push{%
11128 /Subtype/Widget%
11129 \Fld@annotflags
11130 /T(\Fld@name)%
11131 /FT/Btn%
11132 \Fld@flags
11133 /H/P%
11134 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11135 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11136 \ifx\Fld@bordercolor\relax\else 1\fi
11137 \space
11138 \else
11139 /MK<<%
11140 \ifnum\Fld@rotation=\z@
11141 \else
11142 /R \Fld@rotation
11143 \fi
11144 \ifx\Fld@bordercolor\relax
11145 \else
11146 /BC[\Fld@bordercolor]%
11147 \fi
11148 >>%
11149 \fi
11150 /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick})>>%
11151 }%
11152 \fi

```

\Fld@additionalactions

```

11153 \def\Fld@@additionalactions{%
K input (keystroke) format
11154 \ifx\Fld@keystroke@code\@empty
11155 \else
11156 /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
11157 \fi
F display format
11158 \ifx\Fld@format@code\@empty
11159 \else
11160 /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
11161 \fi

```

V validation

```
11162 \ifx\Fld@validate@code\@empty
11163 \else
11164 /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
11165 \fi
```

C calculation

```
11166 \ifx\Fld@calculate@code\@empty
11167 \else
11168 /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
11169 \fi
```

Fo receiving the input focus

```
11170 \ifx\Fld@onfocus@code\@empty
11171 \else
11172 /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
11173 \fi
```

Bl loosing the input focus (blurred)

```
11174 \ifx\Fld@onblur@code\@empty
11175 \else
11176 /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
11177 \fi
```

D pressing the mouse button (down)

```
11178 \ifx\Fld@onmousedown@code\@empty
11179 \else
11180 /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
11181 \fi
```

U releasing the mouse button (up)

```
11182 \ifx\Fld@onmouseup@code\@empty
11183 \else
11184 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
11185 \fi
```

E cursor enters the annotation's active area.

```
11186 \ifx\Fld@onenter@code\@empty
11187 \else
11188 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
11189 \fi
```

X cursor exits the annotation's active area.

```
11190 \ifx\Fld@onexit@code\@empty
11191 \else
11192 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
11193 \fi
```

```
11194 }
```

```
11195 \def\Fld@additionalactions{%
11196 \if-\Fld@@additionalactions-%
11197 \else
11198 \ifHy@pdfa
11199 \else
11200 /AA<<\Fld@@additionalactions>>%
11201 \fi
11202 \fi
11203 }
```

\PDFForm@List

```
11204 \def\PDFForm@List{%
```

```

11205 /Subtype/Widget%
11206 \Fld@annotflags
11207 /T(\Fld@name)%
11208 /FT/Ch%
11209 \Fld@flags
11210 /Q \Fld@align
11211 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11212 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11213 \ifx\Fld@bordercolor\relax\else 1\fi
11214 \ifx\Fld@bcolor\relax \else 1\fi
11215 \space
11216 \else
11217 /MK<<%
11218 \ifnum\Fld@rotation=\z@
11219 \else
11220 /R \Fld@rotation
11221 \fi
11222 \ifx\Fld@bordercolor\relax
11223 \else
11224 /BC[\Fld@bordercolor]%
11225 \fi
11226 \ifx\Fld@bcolor\relax
11227 \else
11228 /BG[\Fld@bcolor]%
11229 \fi
11230 >>%
11231 \fi
11232 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
11233 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11234 \Fld@choices
11235 \Fld@additionalactions
11236 }

```

\PDFForm@Radio

```

11237 \def\PDFForm@Radio{%
11238 /Subtype/Widget%
11239 \Fld@annotflags
11240 /T(\Fld@name)%
11241 /FT/Btn%
11242 \Fld@flags
11243 /H/P%
11244 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11245 /MK<<%
11246 \ifnum\Fld@rotation=\z@
11247 \else
11248 /R \Fld@rotation
11249 \fi
11250 \ifx\Fld@bordercolor\relax
11251 \else
11252 /BC[\Fld@bordercolor]%
11253 \fi
11254 \ifx\Fld@bcolor\relax
11255 \else
11256 /BG[\Fld@bcolor]%
11257 \fi
11258 /CA(H)%
11259 >>%

```

```

11260 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
11261 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11262 \ifx\@currValue\Fld@default
11263 /V/\Fld@default
11264 \else
11265 /V/Off%
11266 \fi
11267 \Fld@additionalactions
11268 }

```

\PDFForm@Text

```

11269 \def\PDFForm@Text{%
11270 /Subtype/Widget%
11271 \Fld@annotflags
11272 /T(\Fld@name)%
11273 /FT/Tx%
11274 \Fld@flags
11275 /Q \Fld@align
11276 /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
11277 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11278 \ifx\Fld@bordercolor\relax\else 1\fi
11279 \ifx\Fld@bcolor\relax \else 1\fi
11280 \space
11281 \else
11282 /MK<<%
11283 \ifnum\Fld@rotation=\z@
11284 \else
11285 /R \Fld@rotation
11286 \fi
11287 \ifx\Fld@bordercolor\relax
11288 \else
11289 /BC[\Fld@bordercolor]%
11290 \fi
11291 \ifx\Fld@bcolor\relax
11292 \else
11293 /BG[\Fld@bcolor]%
11294 \fi
11295 >>%
11296 \fi
11297 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
11298 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11299 /DV(\Hy@escapestring{\Fld@default})%
11300 /V(\Hy@escapestring{\Fld@value})%
11301 \Fld@additionalactions
11302 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
11303 }

```

\PDFForm@Submit

```

11304 \def\PDFForm@Submit{%
11305 /Subtype/Widget%
11306 \Fld@annotflags
11307 /T(\Fld@name)%
11308 /FT/Btn%
11309 \Fld@flags
11310 /H/P%
11311 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11312 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi

```

```

11313         \ifx\Fld@bordercolor\relax\else 1\fi
11314         \space
11315     \else
11316         /MK<<%
11317         \ifnum\Fld@rotation=\z@
11318         \else
11319             /R \Fld@rotation
11320         \fi
11321         \ifx\Fld@bordercolor\relax
11322         \else
11323             /BC[\Fld@bordercolor]%
11324         \fi
11325         >>%
11326     \fi
11327 /A<<%
11328 /S/SubmitForm%
11329 /F<<%
11330 /FS/URL%
11331 /F(\Hy@escapestring{\Form@action})%
11332 >>%
11333 \Fld@submitflags
11334 >>%
11335 }

```

\PDFForm@Reset

```

11336 \ifHy@pdfa
11337 \else
11338     \def\PDFForm@Reset{%
11339         /Subtype/Widget%
11340         \Fld@annotflags
11341         /T(\Fld@name)%
11342         /FT/Btn%
11343         \Fld@flags
11344         /H/P%
11345         /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
11346         \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11347             \ifx\Fld@bordercolor\relax\else 1\fi
11348             \space
11349         \else
11350             /MK<<%
11351             \ifnum\Fld@rotation=\z@
11352             \else
11353                 /R \Fld@rotation
11354             \fi
11355             \ifx\Fld@bordercolor\relax
11356             \else
11357                 /BC[\Fld@bordercolor]%
11358             \fi
11359 %         /CA (Clear)
11360 %         /AC (Done)
11361         >>%
11362     \fi
11363     /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11364     /A<</S/ResetForm>>%
11365 }%
11366 \fi
11367 </pdfform>

```

11368 \langle *package \rangle

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`

```
11369 \def\phantomsection{%
11370   \Hy@GlobalStepCount\Hy@linkcounter
11371   \xdef\@currentHref{section*.\the\Hy@linkcounter}%
11372   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
11373 }
11374  $\langle$ /package $\rangle$ 
```

48.1 Bookmarks

11375 \langle *outlines \rangle

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`.

```
11376 \def\Hy@writebookmark#1#2#3#4#5{%
11377   % section number, text, label, level, file
11378   \ifx\WriteBookmarks\relax%
11379   \else
11380     \ifnum#4>\Hy@bookmarksdepth\relax
11381     \else
11382       \@writetorep{#1}{#2}{#3}{#4}{#5}%
11383     \fi
11384   \fi
11385 }
11386 \def\Hy@currentbookmarklevel{0}
11387 \def\Hy@numberline#1{#1 }
11388 \def\@writetorep#1#2#3#4#5{%
11389   \begingroup
11390     \edef\Hy@tempa{#5}%
11391     \ifx\Hy@tempa\Hy@bookmarkstype
11392       \edef\Hy@level{#4}%
11393       \ifx\Hy@levelcheck Y%
11394         \@tempcnta\Hy@level\relax
11395         \advance\@tempcnta by -1 %
11396         \ifnum\Hy@currentbookmarklevel<\@tempcnta
11397           \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
11398           \advance\@tempcnta by 1 %
11399           \Hy@Warning{%
11400             Difference (\the\@tempcnta) between bookmark levels is %
11401             greater \MessageBreak than one, level fixed%
11402           }%

```



```

11403         \@tempcnta\Hy@currentbookmarklevel
11404         \advance\@tempcnta by 1 %
11405         \edef\Hy@level{\the\@tempcnta}%
11406     \fi
11407 \else
11408     \global\let\Hy@levelcheck Y%
11409 \fi
11410 \global\let\Hy@currentbookmarklevel\Hy@level
11411 \@tempcnta\Hy@level\relax
11412 \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
11413 \advance\@tempcnta by -1 %
11414 \edef\Hy@tempa{#3}%
11415 \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
11416 \ifx\Hy@tempa\Hy@tempb
11417     \Hy@Warning{%
11418         The anchor of a bookmark and its parent's must not%
11419         \MessageBreak be the same. Added a new anchor%
11420     }%
11421     \phantomsection
11422 \fi
11423 \ifHy@bookmarksnumbered
11424     \let\numberline\Hy@numberline
11425     \let\partnumberline\Hy@numberline
11426     \let\chapternumberline\Hy@numberline
11427 \else
11428     \let\numberline\@gobble
11429     \let\partnumberline\@gobble
11430     \let\chapternumberline\@gobble
11431 \fi
11432 \pdfstringdef\Hy@tempa{#2}%
11433 \if@filesw
11434     \protected@write\@outlinefile{}{%
11435         \protect\BOOKMARK
11436         [\Hy@level] [\@bookmarkopenstatus{\Hy@level}] {#3}%
11437         {\Hy@tempa}{\Hy@tempb}%
11438     }%
11439 \fi
11440 \fi
11441 \endgroup
11442 }

```

In the call of \BOOKMARK the braces around #4 are omitted, because it is not likely, that the level number contains].

```

11443 \newcommand{\currentpdfbookmark}{%
11444     \pdfbookmark[\Hy@currentbookmarklevel]%
11445 }
11446 \newcommand{\subpdfbookmark}{%
11447     \@tempcnta\Hy@currentbookmarklevel
11448     \Hy@StepCount\@tempcnta
11449     \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
11450 }
11451 \newcommand{\belowpdfbookmark}[2]{%
11452     \@tempcnta\Hy@currentbookmarklevel
11453     \Hy@StepCount\@tempcnta
11454     \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
11455     \advance\@tempcnta by -1 %
11456     \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
11457 }

```

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.

```

11458 \renewcommand\pdfbookmark[3][0]{%
11459   \Hy@writebookmark{#2}{#3.#1}{#1}{toc}%
11460   \hyper@anchorstart{#3.#1}\hyper@anchorend
11461 }
11462 \def\BOOKMARK{\ifnextchar[{\@BOOKMARK}{\@@BOOKMARK[1][-]}}
11463 \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.

```

11464 \*vtx
11465 \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.

```

11466 \begingroup
11467   \catcode'\'=12 %
11468   \ifnum\Hy@VTeXversion<650 %
11469     \catcode'\'=12 %
11470     \gdef\hv@pdf@char#1#2#3{%
11471       \char
11472       \ifcase'#1#2#3 %
11473         "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
11474         \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
11475         \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
11476         \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
11477         \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
11478         \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
11479         \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
11480         \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
11481         \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
11482         \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
11483         \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
11484         \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
11485         \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
11486         \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
11487         \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
11488         \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
11489         \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
11490         \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
11491         \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
11492         \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
11493         \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
11494         \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
11495         \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
11496         \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
11497         \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
11498         \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
11499         \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
11500         \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%

```

```

11501     \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
11502     \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
11503     \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
11504     \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
11505     \fi
11506   }%
11507   \else
11508     \gdef\hv@pdf@char{\char'}%
11509   \fi
11510 \endgroup

```

\@@BOOKMARK

```

11511 \def\@@BOOKMARK[#1][#2]#3#4#5{%
11512   \expandafter\edef\csname @count@#3\endcsname{\the\@serial@counter}%
11513   \edef\@mycount{\the\@serial@counter}%
11514   \Hy@StepCount\@serial@counter
11515   \edef\@parcount{%
11516     \expandafter\ifx\csname @count@#5\endcsname\relax
11517     0%
11518     \else
11519       \csname @count@#5\endcsname
11520     \fi
11521   }%
11522   \immediate\special{%
11523     !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
11524     s=\ifx#2-c\else o\fi,t=#4%
11525   }%
11526 }%

```

\ReadBookmarks

```

11527 \def\ReadBookmarks{%
11528   \begingroup
11529     \def\O{\hv@pdf@char 0}%
11530     \def\1{\hv@pdf@char 1}%
11531     \def\2{\hv@pdf@char 2}%
11532     \def\3{\hv@pdf@char 3}%
11533     \def\({}%
11534     \def\)}%
11535     \def\do##1{%
11536       \ifnum\the\catcode'##1=\active
11537         \@makeother##1%
11538       \fi
11539     }%
11540     \dospecials
11541     \InputIfFileExists{\jobname.out}{-}{-}%
11542   \endgroup
11543   \ifx\WriteBookmarks\relax
11544   \else
11545     \if@files
11546       \newwrite\@outlinefile
11547       \immediate\openout\@outlinefile=\jobname.out\relax
11548       \ifHy@typexml
11549         \immediate\write\@outlinefile{<relaxxml>\relax}%
11550       \fi
11551     \fi
11552   \fi
11553 }

```

```

11554 </vtex>
11555 <!*vtex>
11556 \def\ReadBookmarks{%
11557   \begingroup
11558     \escapechar='\\%
11559     \let\escapechar\@gobble %
11560     \def\@BOOKMARK[##1][##2]###4##5{\calc@bm@number{##5}}%
11561     \InputIfFileExists{\jobname.out}{-}{-}%
11562     \ifx\WriteBookmarks\relax
11563       \global\let\WriteBookmarks\relax
11564     \fi
11565     \def\@BOOKMARK[##1][##2]###4##5{%
11566       \def\Hy@temp{##4}%
11567 <*pdftex>
11568       \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
11569       \Hy@OutlineName{}\Hy@pstringName{%
11570         ##2\check@bm@number{##3}%
11571       }{%
11572         \expandafter\strip@prefix\meaning\Hy@temp
11573       }%
11574 </pdftex>
11575 <*pdfmark>
11576   \pdfmark{%
11577     pdfmark=/OUT,%
11578     Count={##2\check@bm@number{##3}},%
11579     Dest={##3},%
11580     Title=\expandafter\strip@prefix\meaning\Hy@temp
11581   }%
11582 </pdfmark>
11583 <*dvipdfm>
11584   \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
11585   \@pdfm@mark{%
11586     outline \ifHy@DvipdfmxOutlineOpen
11587       [%
11588         \ifnum##21>\z@
11589         \else
11590         -%
11591         \fi
11592       ] %
11593     \fi
11594     ##1<<%
11595     /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
11596     /A<<%
11597     /S/GoTo%
11598     /D(\Hy@pstringName)%
11599     >>%
11600     >>%
11601   }%
11602 </dvipdfm>
11603 }%
11604 {%
11605   \def\WriteBookmarks{0}%
11606   \InputIfFileExists{\jobname.out}{-}{-}%
11607 }%
11608 {%\escapechar\m@ne\InputIfFileExists{\jobname.out}{-}{-}}%
11609 \ifx\WriteBookmarks\relax
11610 \else

```

```

11611 \if@filesw
11612 \newwrite\@outlinefile
11613 \immediate\openout\@outlinefile=jobname.out\relax
11614 \ifHy@typexml
11615 \immediate\write\@outlinefile{<relaxxml>\relax}%
11616 \fi
11617 \fi
11618 \fi
11619 \endgroup
11620 }
11621 <*pdftex>
11622 \def\Hy@OutlineName#1#2#3#4{%
11623 \pdfoutline goto name{#2}count#3{#4}%
11624 }
11625 </pdftex>
11626 \def\check@bm@number#1{%
11627 \expandafter\ifx\csname B_#1\endcsname\relax
11628 0%
11629 \else
11630 \csname B_#1\endcsname
11631 \fi
11632 }
11633 \def\calc@bm@number#1{%
11634 \@tempcnta=\check@bm@number{#1}\relax
11635 \advance\@tempcnta by 1 %
11636 \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
11637 }
11638 </!vtex>
11639 \ifHy@implicit
11640 \else
11641 \expandafter\endinput
11642 \fi
11643 </outlines>
11644 <*outlines | hypertex>
11645 \let\H@old@ssect\@ssect
11646 \def\@ssect#1#2#3#4#5{%
11647 \H@old@ssect{#1}{#2}{#3}{#4}{#5}%
11648 \phantomsection
11649 }
11650 \let\H@old@schapter\@schapter
11651 \def\@schapter#1{%
11652 \H@old@schapter{#1}%
11653 \begingroup
11654 \let\@mkboth\@gobbletwo
11655 \Hy@GlobalStepCount\Hy@linkcounter
11656 \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
11657 \Hy@raisedlink{%
11658 \hyper@anchorstart{\@currentHref}\hyper@anchorend
11659 }%
11660 \endgroup
11661 }

```

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:

```

11662 \@ifundefined{@chapter}{-}{%

```

```

11663 \let\Hy@org@chapter\@chapter
11664 \def\@chapter{%
11665   \def\Hy@next{%
11666     \Hy@GlobalStepCount\Hy@linkcounter
11667     \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
11668     \Hy@raisedlink{%
11669       \hyper@anchorstart{\@currentHref}\hyper@anchorend
11670     }%
11671   }%
11672   \ifnum\c@secnumdepth>\m@ne
11673     \@ifundefined{if@mainmatter}%
11674     \iftrue{\csname if@mainmatter\endcsname}%
11675     \let\Hy@next\relax
11676   \fi
11677   \fi
11678   \Hy@next
11679   \Hy@org@chapter
11680 }%
11681 }

11682 \let\H@old@part\@part
11683 \begingroup\expandafter\expandafter\expandafter\endgroup
11684 \expandafter\ifx\csname chapter\endcsname\relax
11685   \let\Hy@secnum@part\z@
11686 \else
11687   \let\Hy@secnum@part\m@ne
11688 \fi
11689 \def\@part{%
11690   \ifnum\Hy@secnum@part>\c@secnumdepth
11691     \phantomsection
11692   \fi
11693   \H@old@part
11694 }

11695 \let\H@old@spart\@spart
11696 \def\@spart#1{%
11697   \H@old@spart{#1}%
11698   \Hy@GlobalStepCount\Hy@linkcounter
11699   \xdef\@currentHref{part*.\the\Hy@linkcounter}%
11700   \Hy@raisedlink{%
11701     \hyper@anchorstart{\@currentHref}\hyper@anchorend
11702   }%
11703 }

11704 \let\H@old@sect\@sect
11705 \def\@sect#1#2#3#4#5#6[#7]#8{%
11706   \ifnum #2>\c@secnumdepth
11707     \Hy@GlobalStepCount\Hy@linkcounter
11708     \xdef\@currentHref{section*.\the\Hy@linkcounter}%
11709   \fi
11710   \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[#7]{#8}%
11711   \ifnum #2>\c@secnumdepth
11712     \Hy@raisedlink{%
11713       \hyper@anchorstart{\@currentHref}\hyper@anchorend
11714     }%
11715   \fi
11716 }

11717 </outlines | hypertex>
11718 <*outlines>

```

```

11719 \expandafter\def\csname Parent-4\endcsname{}
11720 \expandafter\def\csname Parent-3\endcsname{}
11721 \expandafter\def\csname Parent-2\endcsname{}
11722 \expandafter\def\csname Parent-1\endcsname{}
11723 \expandafter\def\csname Parent0\endcsname{}
11724 \expandafter\def\csname Parent1\endcsname{}
11725 \expandafter\def\csname Parent2\endcsname{}
11726 \expandafter\def\csname Parent3\endcsname{}
11727 \expandafter\def\csname Parent4\endcsname{}
11728 </outlines>

```

49 Compatibility with koma-script classes

```
11729 < *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.

```

11730 \def\Hy@tempa{%
11731   \def\@addchap[##1]##2{%
11732     \typeout{##2}%
11733     \if@twoside
11734       \@mkboth{##1}{}%
11735     \else
11736       \@mkboth{}{##1}%
11737     \fi
11738     \addtocontents{lof}{\protect\addvspace{10\p@}}%
11739     \addtocontents{lot}{\protect\addvspace{10\p@}}%
11740     \Hy@GlobalStepCount\Hy@linkcounter
11741     \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
11742     \Hy@raisedlink{%
11743       \hyper@anchorstart{\@currentHref}\hyper@anchorend
11744     }%
11745     \if@twocolumn
11746       \@topnewpage[\@makeschapterhead{##2}]%
11747     \else
11748       \@makeschapterhead{##2}%
11749       \@afterheading
11750     \fi
11751     \addcontentsline{toc}{chapter}{##1}%
11752   }%
11753 }
11754 \@ifclassloaded{scrbook}{%
11755   \@ifclasslater{scrbook}{2001/01/01}{%
11756     \let\Hy@tempa\@empty
11757   }{}%
11758 }{%
11759   \@ifclassloaded{scrreprt}{%
11760     \@ifclasslater{scrreprt}{2001/01/01}{%
11761       \let\Hy@tempa\@empty
11762     }{}%
11763   }{%
11764     \let\Hy@tempa\@empty
11765   }%
11766 }%
11767 \Hy@tempa

```

11768 `</outlines | hypertext>`

50 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek `oberdiek@ruf.uni-freiburg.de`

50.1 PD1 encoding

11769 `<*pd1enc>`
11770 `\DeclareFontEncoding{PD1}{-}{-}`

Special white space escape characters not for use in bookmarks but for other PDF strings.

11771 `\DeclareTextCommand{\textLF}{PD1}{\012} % line feed`
11772 `\DeclareTextCommand{\textCR}{PD1}{\015} % carriage return`
11773 `\DeclareTextCommand{\textHT}{PD1}{\011} % horizontal tab`
11774 `\DeclareTextCommand{\textBS}{PD1}{\010} % backspace`
11775 `\DeclareTextCommand{\textFF}{PD1}{\014} % formfeed`

Accents

11776 `\DeclareTextAccent{'}{PD1}{\textgrave}`
11777 `\DeclareTextAccent`}{PD1}{\textacute}`
11778 `\DeclareTextAccent^{~}{PD1}{\textcircumflex}`
11779 `\DeclareTextAccent{~}{PD1}{\texttilde}`
11780 `\DeclareTextAccent{"}{PD1}{\textdieresis}`
11781 `\DeclareTextAccent{\r}{PD1}{\textring}`
11782 `\DeclareTextAccent{\v}{PD1}{\textcaron}`
11783 `\DeclareTextAccent{.}{PD1}{\textdotaccent}`
11784 `\DeclareTextAccent{c}{PD1}{\textcedilla}`
11785 `\DeclareTextCompositeCommand{'}{PD1}{\@empty}{\textgrave}`
11786 `\DeclareTextCompositeCommand`}{PD1}{\@empty}{\textacute}`
11787 `\DeclareTextCompositeCommand^{~}{PD1}{\@empty}{\textcircumflex}`
11788 `\DeclareTextCompositeCommand{~}{PD1}{\@empty}{\texttilde}`
11789 `\DeclareTextCompositeCommand{"}{PD1}{\@empty}{\textdieresis}`
11790 `\DeclareTextCompositeCommand{\r}{PD1}{\@empty}{\textring}`
11791 `\DeclareTextCompositeCommand{\v}{PD1}{\@empty}{\textcaron}`
11792 `\DeclareTextCompositeCommand{.}{PD1}{\@empty}{\textdotaccent}`
11793 `\DeclareTextCompositeCommand{c}{PD1}{\@empty}{\textcedilla}`
11794 `\DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}`

Accent glyph names

11795 `\DeclareTextCommand{\textbreve}{PD1}{\030} % breve`
11796 `\DeclareTextCommand{\textcaron}{PD1}{\031} % caron`
11797 `\DeclareTextCommand{\textcircumflex}{PD1}{\032} % circumflex`
11798 `\DeclareTextCommand{\textdotaccent}{PD1}{\033} % dotaccent`
11799 `\DeclareTextCommand{\texthungarumlaut}{PD1}{\034} % hungarumlaut`
11800 `\DeclareTextCommand{\textogonek}{PD1}{\035} % ogonek`
11801 `\DeclareTextCommand{\textring}{PD1}{\036} % ring`
11802 `\DeclareTextCommand{\texttilde}{PD1}{\037} % tilde`

`\040: space`

`\041: exclam`

11803 `\DeclareTextCommand{\textquotedbl}{PD1}{\string"} % quotedbl \042`
11804 `\DeclareTextCommand{\textnumbersign}{PD1}{\043} % numbersign`
11805 `\DeclareTextCommand{\textdollar}{PD1}{\044} % dollar`
11806 `\DeclareTextCommand{\textpercent}{PD1}{\045} % percent`
11807 `\DeclareTextCommand{\textampersand}{PD1}{\046} % ampersand`

`\047: quotesingle`

11808 `\DeclareTextCommand{\textparenleft}{PD1}{\string\({} % parenleft \050`
11809 `\DeclareTextCommand{\textparenright}{PD1}{\string\)} % parenright \051`


```

\052: asterisk
\053: plus
\054: comma
\055: hyphen
\056: period
\057: slash
\060...\071: 0...9
\072: colon
\073: semicolon
11810 \DeclareTextCommand{\textless}{PD1}{<} % less \074
\075: equal
11811 \DeclareTextCommand{\textgreater}{PD1}{>} % greater \076
\077: question
\100: at
\101...\132: A...Z
\133: bracketleft
11812 \DeclareTextCommand{\textbackslash}{PD1}{\134} % backslash
\135: bracketright
11813 \DeclareTextCommand{\textasciicircum}{PD1}{\136} % asciicircum
11814 \DeclareTextCommand{\textunderscore}{PD1}{\137} % underscore
11815 \DeclareTextCommand{\textgrave}{PD1}{\140} % grave
\141...\172: a...z
11816 \DeclareTextCompositeCommand{\.}{PD1}{i}{i} % i
11817 \DeclareTextCommand{\textbraceleft}{PD1}{\173} % braceleft
11818 \DeclareTextCommand{\textbar}{PD1}{|} % bar
11819 \DeclareTextCommand{\textbraceright}{PD1}{\175} % braceright
11820 \DeclareTextCommand{\textasciitilde}{PD1}{\176} % asciitilde
No glyph \177 in PDFDocEncoding.
11821 \DeclareTextCommand{\textbullet}{PD1}{\200} % bullet
11822 \DeclareTextCommand{\textdagger}{PD1}{\201} % dagger
11823 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202} % daggerdbl
11824 \DeclareTextCommand{\textellipsis}{PD1}{\203} % ellipsis
11825 \DeclareTextCommand{\textemdash}{PD1}{\204} % emdash
11826 \DeclareTextCommand{\textendash}{PD1}{\205} % endash
11827 \DeclareTextCommand{\textflorin}{PD1}{\206} % florin
11828 \DeclareTextCommand{\textfractionmark}{PD1}{\207} % fraction, \207
11829 \DeclareTextCommand{\guilsinglleft}{PD1}{\210} % guilsinglleft
11830 \DeclareTextCommand{\guilsinglright}{PD1}{\211} % guilsinglright
11831 \DeclareTextCommand{\textminus}{PD1}{-} % minus, \212
11832 \DeclareTextCommand{\textperthousand}{PD1}{\213} % perthousand
11833 \DeclareTextCommand{\quotedblbase}{PD1}{\214} % quotedblbase
11834 \DeclareTextCommand{\textquotedblleft}{PD1}{\215} % quotedblleft
11835 \DeclareTextCommand{\textquotedblright}{PD1}{\216} % quotedblright
11836 \DeclareTextCommand{\textquoteleft}{PD1}{\217} % quoteleft
11837 \DeclareTextCommand{\textquoteright}{PD1}{\220} % quoteright
11838 \DeclareTextCommand{\quotesinglbase}{PD1}{\221} % quotesinglbase
11839 \DeclareTextCommand{\texttrademark}{PD1}{\222} % trademark
11840 \DeclareTextCommand{\textfi}{PD1}{\223} % fi ?? \223
11841 \DeclareTextCommand{\textfl}{PD1}{\224} % fl ?? \224
11842 \DeclareTextCommand{\L}{PD1}{\225} % Lslash, \225
11843 \DeclareTextCommand{\OE}{PD1}{\226} % OE
11844 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227} % Scaron
11845 \DeclareTextCompositeCommand{"}{PD1}{Y}{\230} % Ydieresis
11846 \DeclareTextCommand{\IJ}{PD1}{\230}
11847 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231} % Zcaron, \231

```

```

11848 \DeclareTextCommand{\i}{PD1}{\232} % dotlessi, \232
11849 \DeclareTextCommand{\l}{PD1}{\233} % lslash, \233
11850 \DeclareTextCommand{\oe}{PD1}{\234} % oe
11851 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235} % scaron
11852 \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.

```

11853 \DeclareTextCommand{\texteuro}{PD1}{\240} % Euro
11854 \DeclareTextCommand{\textexclamdown}{PD1}{\241} % exclamdown
11855 \DeclareTextCommand{\textcent}{PD1}{\242} % cent
11856 \DeclareTextCommand{\textsterling}{PD1}{\243} % sterling
11857 \DeclareTextCommand{\textcurrency}{PD1}{\244} % currency
11858 \DeclareTextCommand{\textyen}{PD1}{\245} % yen
11859 \DeclareTextCommand{\textbrokenbar}{PD1}{\246} % brokenbar
11860 \DeclareTextCommand{\textsection}{PD1}{\247} % section
11861 \DeclareTextCommand{\textdieresis}{PD1}{\250} % dieresis
11862 \DeclareTextCommand{\textcopyright}{PD1}{\251} % copyright
11863 \DeclareTextCommand{\textordfeminine}{PD1}{\252} % ordfeminine
11864 \DeclareTextCommand{\guillemotleft}{PD1}{\253} % guillemotleft
11865 \DeclareTextCommand{\textlogicalnot}{PD1}{\254} % logicalnot

```

No glyph \255 in PDFDocEncoding.

```

11866 \DeclareTextCommand{\textregistered}{PD1}{\256} % registered
11867 \DeclareTextCommand{\textmacron}{PD1}{\257} % macron
11868 \DeclareTextCommand{\textdegree}{PD1}{\260} % degree
11869 \DeclareTextCommand{\textplusminus}{PD1}{\261} % plusminus
11870 \DeclareTextCommand{\texttwosuperior}{PD1}{\262} % twosuperior
11871 \DeclareTextCommand{\textthreesuperior}{PD1}{\263} % threesuperior
11872 \DeclareTextCommand{\textacute}{PD1}{\264} % acute
11873 \DeclareTextCommand{\textmu}{PD1}{\265} % mu
11874 \DeclareTextCommand{\textparagraph}{PD1}{\266} % paragraph
11875 \DeclareTextCommand{\textperiodcentered}{PD1}{\267} % periodcentered
11876 \DeclareTextCommand{\textcedilla}{PD1}{\270} % cedilla
11877 \DeclareTextCommand{\textonesuperior}{PD1}{\271} % onesuperior
11878 \DeclareTextCommand{\textordmasculine}{PD1}{\272} % ordmasculine
11879 \DeclareTextCommand{\guillemotright}{PD1}{\273} % guillemotright
11880 \DeclareTextCommand{\textonequarter}{PD1}{\274} % onequarter
11881 \DeclareTextCommand{\textonehalf}{PD1}{\275} % onehalf
11882 \DeclareTextCommand{\textthreequarters}{PD1}{\276} % threequarters
11883 \DeclareTextCommand{\textquestiondown}{PD1}{\277} % questiondown
11884 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300} % Agrave
11885 \DeclareTextCompositeCommand{\`}{PD1}{A}{\301} % Aacute
11886 \DeclareTextCompositeCommand{\`}{PD1}{A}{\302} % Acircumflex
11887 \DeclareTextCompositeCommand{\`}{PD1}{A}{\303} % Atilde
11888 \DeclareTextCompositeCommand{\`}{PD1}{A}{\304} % Adieresis
11889 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305} % Aring
11890 \DeclareTextCommand{\AE}{PD1}{\306} % AE
11891 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307} % Ccedilla
11892 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310} % Egrave
11893 \DeclareTextCompositeCommand{\`}{PD1}{E}{\311} % Eacute
11894 \DeclareTextCompositeCommand{\`}{PD1}{E}{\312} % Ecircumflex
11895 \DeclareTextCompositeCommand{\`}{PD1}{E}{\313} % Edieresis
11896 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314} % Igrave
11897 \DeclareTextCompositeCommand{\`}{PD1}{I}{\315} % Iacute
11898 \DeclareTextCompositeCommand{\`}{PD1}{I}{\316} % Icircumflex
11899 \DeclareTextCompositeCommand{\`}{PD1}{I}{\317} % Idieresis
11900 \DeclareTextCommand{\DH}{PD1}{\320} % Eth
11901 \DeclareTextCommand{\DJ}{PD1}{\320} % Eth

```

```

11902 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321} % Ntilde
11903 \DeclareTextCompositeCommand{\'}{PD1}{O}{\322} % Ograve
11904 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323} % Oacute
11905 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324} % Ocircumflex
11906 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325} % Otilde
11907 \DeclareTextCompositeCommand{\"}{PD1}{O}{\326} % Odieresis
11908 \DeclareTextCommand{\textmultiply}{PD1}{\327} % multiply
11909 \DeclareTextCommand{\O}{PD1}{\330} % Oslash
11910 \DeclareTextCompositeCommand{\'}{PD1}{U}{\331} % Ugrave
11911 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332} % Uacute
11912 \DeclareTextCompositeCommand{\^}{PD1}{U}{\333} % Ucircumflex
11913 \DeclareTextCompositeCommand{\"}{PD1}{U}{\334} % Udieresis
11914 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335} % Yacute
11915 \DeclareTextCommand{\TH}{PD1}{\336} % Thorn
11916 \DeclareTextCommand{\ss}{PD1}{\337} % germandbls
11917 \DeclareTextCompositeCommand{\'}{PD1}{a}{\340} % agrave
11918 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341} % aacute
11919 \DeclareTextCompositeCommand{\^}{PD1}{a}{\342} % acircumflex
11920 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343} % atilde
11921 \DeclareTextCompositeCommand{\"}{PD1}{a}{\344} % adieresis
11922 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345} % aring
11923 \DeclareTextCommand{\ae}{PD1}{\346} % ae
11924 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347} % ccedilla
11925 \DeclareTextCompositeCommand{\'}{PD1}{e}{\350} % egrave
11926 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351} % eacute
11927 \DeclareTextCompositeCommand{\^}{PD1}{e}{\352} % ecircumflex
11928 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353} % edieresis
11929 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354} % igrave
11930 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355} % igrave
11931 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355} % iacute
11932 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355} % iacute
11933 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356} % icircumflex
11934 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356} % icircumflex
11935 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357} % idieresis
11936 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357} % idieresis
11937 \DeclareTextCommand{\dh}{PD1}{\360} % eth
11938 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361} % ntilde
11939 \DeclareTextCompositeCommand{\'}{PD1}{o}{\362} % ograve
11940 \DeclareTextCompositeCommand{\'}{PD1}{o}{\363} % oacute
11941 \DeclareTextCompositeCommand{\^}{PD1}{o}{\364} % ocircumflex
11942 \DeclareTextCompositeCommand{\~}{PD1}{o}{\365} % otilde
11943 \DeclareTextCompositeCommand{\"}{PD1}{o}{\366} % odieresis
11944 \DeclareTextCommand{\textdivide}{PD1}{\367} % divide
11945 \DeclareTextCommand{\o}{PD1}{\370} % oslash
11946 \DeclareTextCompositeCommand{\'}{PD1}{u}{\371} % ugrave
11947 \DeclareTextCompositeCommand{\'}{PD1}{u}{\372} % uacute
11948 \DeclareTextCompositeCommand{\^}{PD1}{u}{\373} % ucircumflex
11949 \DeclareTextCompositeCommand{\"}{PD1}{u}{\374} % udieresis
11950 \DeclareTextCompositeCommand{\'}{PD1}{y}{\375} % yacute
11951 \DeclareTextCommand{\th}{PD1}{\376} % thorn
11952 \DeclareTextCompositeCommand{\"}{PD1}{y}{\377} % ydieresis
11953 \DeclareTextCommand{\ij}{PD1}{\377}

```

Glyphs that consist of several characters.

```

11954 \DeclareTextCommand{\SS}{PD1}{SS}
11955 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}

```

Aliases (german.sty)

```

11956 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}

```

```

11957 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}
11958 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}
11959 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}
11960 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}
11961 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}
11962 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}
11963 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}

```

Aliases (math names)

```

11964 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}
11965 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}
11966 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}
11967 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}
11968 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}
11969 \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;

```

11970 \DeclareTextCompositeCommand{\k}{PD1}{a}{a} % aogonek
11971 \DeclareTextCompositeCommand{\'}{PD1}{c}{c} % cacute
11972 \DeclareTextCompositeCommand{\k}{PD1}{e}{e} % eogonek
11973 \DeclareTextCompositeCommand{\'}{PD1}{n}{n} % nacute
11974 \DeclareTextCompositeCommand{\'}{PD1}{s}{s} % sacute
11975 \DeclareTextCompositeCommand{\'}{PD1}{z}{z} % zacute
11976 \DeclareTextCompositeCommand{\.}{PD1}{z}{z} % zdot
11977 \DeclareTextCompositeCommand{\k}{PD1}{A}{A} % Aogonek
11978 \DeclareTextCompositeCommand{\'}{PD1}{C}{C} % Cacute
11979 \DeclareTextCompositeCommand{\k}{PD1}{E}{E} % Eogonek
11980 \DeclareTextCompositeCommand{\'}{PD1}{N}{N} % Nacute
11981 \DeclareTextCompositeCommand{\'}{PD1}{S}{S} % Sacute
11982 \DeclareTextCompositeCommand{\'}{PD1}{Z}{Z} % Zacute
11983 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z} % Zdot

```

```

11984 (/pdlenc)

```

50.2 PU encoding

```

11985 (*puenc)
11986 \DeclareFontEncoding{PU}{}{}

```

50.2.1 Basic Latin

Special white space escape characters not for use in bookmarks but for other PDF strings.

```

11987 \DeclareTextCommand{\textLF}{PU}{\80\012} % line feed
11988 \DeclareTextCommand{\textCR}{PU}{\80\015} % carriage return
11989 \DeclareTextCommand{\textHT}{PU}{\80\011} % horizontal tab
11990 \DeclareTextCommand{\textBS}{PU}{\80\010} % backspace
11991 \DeclareTextCommand{\textFF}{PU}{\80\014} % formfeed

```

Accents

```

11992 \DeclareTextAccent{\'}{PU}{\textgrave}
11993 \DeclareTextAccent{\'}{PU}{\textacute}
11994 \DeclareTextAccent{\^}{PU}{\textcircumflex}
11995 \DeclareTextAccent{\~}{PU}{\texttilde}
11996 \DeclareTextAccent{\"}{PU}{\textdieresis}
11997 \DeclareTextAccent{\r}{PU}{\textring}
11998 \DeclareTextAccent{\v}{PU}{\textcaron}
11999 \DeclareTextAccent{\.}{PU}{\textdotaccent}
12000 \DeclareTextAccent{\c}{PU}{\textcedilla}
12001 \DeclareTextAccent{\U}{PU}{\textbreve}
12002 \DeclareTextAccent{\C}{PU}{\textdoublegrave}

```

```

12003 \DeclareTextCompositeCommand{\`}{PU}{\@empty}{\textgrave}
12004 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}
12005 \DeclareTextCompositeCommand{\^}{PU}{\@empty}{\textcircumflex}
12006 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\texttilde}
12007 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textdieresis}
12008 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}
12009 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textcaron}
12010 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}
12011 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}
12012 \DeclareTextCompositeCommand{\U}{PU}{\@empty}{\textbreve}
12013 \DeclareTextCompositeCommand{\C}{PU}{\@empty}{\textdoublegrave}
12014 \DeclareTextCommand{=} {PU} [1] {\TextSymbolUnavailable{=#1}} #1}
12015 \DeclareTextCommand{\H} {PU} [1] {\TextSymbolUnavailable{\H{#1}}} #1}
12016 \DeclareTextCommand{\k} {PU} [1] {\TextSymbolUnavailable{\k{#1}}} #1}
12017 \DeclareTextCommand{\u} {PU} [1] {\TextSymbolUnavailable{\u{#1}}} #1}

Accent glyph names
12018 \DeclareTextCommand{\textbreve}{PU}{\80\030} % breve
12019 \DeclareTextCommand{\textcaron}{PU}{\80\031} % caron
12020 \DeclareTextCommand{\textcircumflex}{PU}{\80\032} % circumflex
12021 \DeclareTextCommand{\textdotaccent}{PU}{\80\033} % dotaccent
12022 \DeclareTextCommand{\texthungarumlaut}{PU}{\80\034} % hungarumlaut
12023 \DeclareTextCommand{\textogonek}{PU}{\80\035} % ogonek
12024 \DeclareTextCommand{\textring}{PU}{\80\036} % ring
12025 \DeclareTextCommand{\texttilde}{PU}{\80\037} % tilde
12026 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017} % double grave

\040: space
\041: exclam

12027 \DeclareTextCommand{\textquotedbl}{PU}{\string"} % quotedbl \80\042
12028 \DeclareTextCommand{\textnumbersign}{PU}{\80\043} % numbersign
12029 \DeclareTextCommand{\textdollar}{PU}{\80\044} % dollar
12030 \DeclareTextCommand{\textpercent}{PU}{\80\045} % percent
12031 \DeclareTextCommand{\textampersand}{PU}{\80\046} % ampersand

\047: quotesingle

12032 \DeclareTextCommand{\textparenleft}{PU}{\80\050} % parenleft
12033 \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

12034 \DeclareTextCommand{\textless}{PU}{<} % less \80\074

\075: equal

12035 \DeclareTextCommand{\textgreater}{PU}{>} % greater \80\076

\077: question
\100: at
\101... \132: A...Z
\133: bracketleft

12036 \DeclareTextCommand{\textbackslash}{PU}{\80\134} % backslash

```

\135: bracketright

```
12037 \DeclareTextCommand{\textasciicircum}{PU}{\80\136} % asciicircum
12038 \DeclareTextCommand{\textunderscore}{PU}{\80\137} % underscore
12039 \DeclareTextCommand{\textgrave}{PU}{\80\140} % grave
```

\141... \172: a...z

```
12040 \DeclareTextCompositeCommand{\.}{PU}{i}{i} % i
12041 \DeclareTextCommand{\j}{PU}{j} % jdotless
12042 \DeclareTextCommand{\textbraceleft}{PU}{\80\173} % braceleft
12043 \DeclareTextCommand{\textbar}{PU}{|} % bar
12044 \DeclareTextCommand{\textbraceright}{PU}{\80\175} % braceright
12045 \DeclareTextCommand{\textasciitilde}{PU}{\80\176} % asciitilde
```

No glyph \177 in PDFDocEncoding.

50.2.2 Latin-1 Supplement

```
12046 \DeclareTextCommand{\textminus}{PU}{-} % minus, \80\212
12047 \DeclareTextCommand{\textfi}{PU}{fi} % fi ?? \80\223
12048 \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.

```
12049 \DeclareTextCommand{\OE}{PU}{OE} % OE
12050 \DeclareTextCommand{\oe}{PU}{oe} % oe
```

The euro \240 is inserted in version 1.3 of the pdf specification.

```
12051 \DeclareTextCommand{\textexclamdown}{PU}{\80\241} % exclamdown
12052 \DeclareTextCommand{\textcent}{PU}{\80\242} % cent
12053 \DeclareTextCommand{\textsterling}{PU}{\80\243} % sterling
12054 \DeclareTextCommand{\textcurrency}{PU}{\80\244} % currency
12055 \DeclareTextCommand{\textyen}{PU}{\80\245} % yen
12056 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246} % brokenbar
12057 \DeclareTextCommand{\textsection}{PU}{\80\247} % section
12058 \DeclareTextCommand{\textdieresis}{PU}{\80\250} % dieresis
12059 \DeclareTextCommand{\textcopyright}{PU}{\80\251} % copyright
12060 \DeclareTextCommand{\textordfeminine}{PU}{\80\252} % ordfeminine
12061 \DeclareTextCommand{\guillemotleft}{PU}{\80\253} % guillemotleft
12062 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254} % logicalnot
```

No glyph \255 in PDFDocEncoding.

```
12063 \DeclareTextCommand{\textregistered}{PU}{\80\256} % registered
12064 \DeclareTextCommand{\textmacron}{PU}{\80\257} % macron
12065 \DeclareTextCommand{\textdegree}{PU}{\80\260} % degree
12066 \DeclareTextCommand{\textplusminus}{PU}{\80\261} % plusminus
12067 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262} % twosuperior
12068 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263} % threesuperior
12069 \DeclareTextCommand{\textacute}{PU}{\80\264} % acute
12070 \DeclareTextCommand{\textmu}{PU}{\80\265} % mu
12071 \DeclareTextCommand{\textparagraph}{PU}{\80\266} % paragraph
12072 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267} % periodcentered
12073 \DeclareTextCommand{\textcedilla}{PU}{\80\270} % cedilla
12074 \DeclareTextCommand{\textonesuperior}{PU}{\80\271} % onesuperior
12075 \DeclareTextCommand{\textordmasculine}{PU}{\80\272} % ordmasculine
12076 \DeclareTextCommand{\guillemotright}{PU}{\80\273} % guillemotright
12077 \DeclareTextCommand{\textonequarter}{PU}{\80\274} % onequarter
12078 \DeclareTextCommand{\textonehalf}{PU}{\80\275} % onehalf
12079 \DeclareTextCommand{\textthreequarters}{PU}{\80\276} % threequarters
12080 \DeclareTextCommand{\textquestiondown}{PU}{\80\277} % questiondown
```

12081 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300} % Agrave
12082 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301} % Aacute
12083 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302} % Acircumflex
12084 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303} % Atilde
12085 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304} % Adieresis
12086 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305} % Aring
12087 \DeclareTextCommand{\AE}{PU}{\80\306} % AE
12088 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307} % Ccedilla
12089 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\310} % Egrave
12090 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311} % Eacute
12091 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312} % Ecircumflex
12092 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313} % Edieresis
12093 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\314} % Igrave
12094 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315} % Iacute
12095 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316} % Icircumflex
12096 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317} % Idieresis
12097 \DeclareTextCommand{\DH}{PU}{\80\320} % Eth
12098 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321} % Ntilde
12099 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\322} % Ograve
12100 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323} % Oacute
12101 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324} % Ocircumflex
12102 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325} % Otilde
12103 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326} % Odieresis
12104 \DeclareTextCommand{\textmultiply}{PU}{\80\327} % multiply
12105 \DeclareTextCommand{\O}{PU}{\80\330} % Oslash
12106 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331} % Ugrave
12107 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332} % Uacute
12108 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333} % Ucircumflex
12109 \DeclareTextCompositeCommand{\"}{PU}{U}{\80\334} % Udieresis
12110 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335} % Yacute
12111 \DeclareTextCommand{\TH}{PU}{\80\336} % Thorn
12112 \DeclareTextCommand{\ss}{PU}{\80\337} % germandbls
12113 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340} % agrave
12114 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341} % aacute
12115 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342} % acircumflex
12116 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343} % atilde
12117 \DeclareTextCompositeCommand{\"}{PU}{a}{\80\344} % adieresis
12118 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345} % aring
12119 \DeclareTextCommand{\ae}{PU}{\80\346} % ae
12120 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347} % ccedilla
12121 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350} % egrave
12122 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351} % eacute
12123 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352} % ecircumflex
12124 \DeclareTextCompositeCommand{\"}{PU}{e}{\80\353} % edieresis
12125 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354} % igrave
12126 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354} % igrave
12127 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355} % iacute
12128 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355} % iacute
12129 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356} % icircumflex
12130 \DeclareTextCompositeCommand{\~}{PU}{i}{\80\356} % icircumflex
12131 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357} % idieresis
12132 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357} % idieresis
12133 \DeclareTextCommand{\dh}{PU}{\80\360} % eth
12134 \DeclareTextCompositeCommand{\~}{PU}{n}{\80\361} % ntilde
12135 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362} % ograve
12136 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363} % oacute
12137 \DeclareTextCompositeCommand{\^}{PU}{o}{\80\364} % ocircumflex

```

12138 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365} % otilde
12139 \DeclareTextCompositeCommand{\"}{PU}{o}{\80\366} % odieresis
12140 \DeclareTextCommand{\textdivide}{PU}{\80\367} % divide
12141 \DeclareTextCommand{\o}{PU}{\80\370} % oslash
12142 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371} % ugrave
12143 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372} % uacute
12144 \DeclareTextCompositeCommand{\^}{PU}{u}{\80\373} % ucircumflex
12145 \DeclareTextCompositeCommand{\"}{PU}{u}{\80\374} % udieresis
12146 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375} % yacute
12147 \DeclareTextCommand{\th}{PU}{\80\376} % thorn
12148 \DeclareTextCompositeCommand{\"}{PU}{y}{\80\377} % ydieresis
12149 \DeclareTextCommand{\ij}{PU}{\80\377}

```

Glyphs that consist of several characters.

```
12150 \DeclareTextCommand{\SS}{PU}{SS}
```

Aliases (german.sty)

```

12151 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}
12152 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}
12153 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}
12154 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}
12155 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}
12156 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}
12157 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}
12158 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}

```

Aliases (math names)

```

12159 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}
12160 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}
12161 \DeclareTextCommand{\textdiv}{PU}{\textdivide}
12162 \DeclareTextCommand{\textpm}{PU}{\textplusminus}
12163 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}

```

50.2.3 Latin Extended-A

```

12164 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000} % Amacron
12165 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001} % amacron
12166 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002} % Abreve
12167 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003} % abreve
12168 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004} % Aogonek
12169 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005} % aogonek
12170 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006} % Cacute
12171 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007} % cacute
12172 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010} % Ccircumflex
12173 \DeclareTextCompositeCommand{\^}{PU}{c}{\81\011} % ccircumflex
12174 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012} % Cdot
12175 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013} % cdot
12176 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014} % Ccaron
12177 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015} % ccaron
12178 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016} % Dcaron
12179 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017} % dcaron
12180 \DeclareTextCommand{\DJ}{PU}{\81\020} % Dslash
12181 \DeclareTextCommand{\dj}{PU}{\81\021} % dslash
12182 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022} % Emacron
12183 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023} % emacron
12184 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024} % Ebreve
12185 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025} % ebreve
12186 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026} % Edot
12187 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027} % edot
12188 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030} % Eogonek

```



```

12189 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031} % eogonek
12190 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032} % Ecaron
12191 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033} % ecaron
12192 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034} % Gcircumflex
12193 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035} % gcircumflex
12194 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036} % Gbreve
12195 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037} % gbreve
12196 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040} % Gdot
12197 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041} % gdot
12198 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042} % Gcedilla
12199 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043} % gcedilla
12200 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044} % Hcircumflex
12201 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045} % hcircumflex
12202 \DeclareTextCommand{\textHslash}{PU}{\81\046} % Hslash
12203 \DeclareTextCommand{\texthslash}{PU}{\81\047} % hslash
12204 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050} % Itilde
12205 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051} % itilde
12206 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051} % itilde
12207 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052} % Imacron
12208 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053} % imacron
12209 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053} % imacron
12210 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054} % Ibreve
12211 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055} % ibreve
12212 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055} % ibreve
12213 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056} % Iogonek
12214 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057} % iogonek
12215 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057} % iogonek
12216 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060} % Idot
12217 \DeclareTextCommand{\i}{PU}{\81\061} % idotless
12218 % IJlig
12219 % ijlig
12220 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064} % Jcircumflex
12221 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065} % jcircumflex
12222 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065} % jcircumflex
12223 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066} % Kcedilla
12224 \DeclareTextCompositeCommand{\c}{PU}{k}{\81\067} % kcedilla
12225 % kgreen
12226 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071} % Lacute
12227 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072} % lacute
12228 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073} % Lcedilla
12229 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074} % lcedilla
12230 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075} % Lcaron
12231 \DeclareTextCompositeCommand{\v}{PU}{l}{\81\076} % lcaron
12232 % L middle dot
12233 % l middle dot
12234 \DeclareTextCommand{\L}{PU}{\81\101} % Lslash
12235 \DeclareTextCommand{\l}{PU}{\81\102} % lslash
12236 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103} % Nacute
12237 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104} % nacute
12238 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105} % Ncedilla
12239 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106} % ncedilla
12240 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107} % Ncaron
12241 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110} % ncaron
12242 % n apostrophe
12243 \DeclareTextCommand{\NG}{PU}{\81\112} % NG
12244 \DeclareTextCommand{\ng}{PU}{\81\113} % ng
12245 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114} % Omacron

```

```

12246 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115} % omacron
12247 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116} % Obreve
12248 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117} % obreve
12249 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120} % Odoubleacute
12250 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121} % odoubleacute
12251 \DeclareTextCommand{\OE}{PU}{\81\122} % OE
12252 \DeclareTextCommand{\oe}{PU}{\81\123} % oe
12253 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124} % Racute
12254 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125} % racute
12255 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126} % Rcedilla
12256 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127} % rcedilla
12257 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130} % Rcaron
12258 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131} % rcaron
12259 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132} % Sacute
12260 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133} % sacute
12261 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134} % Scircumflex
12262 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135} % scircumflex
12263 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136} % Scedilla
12264 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137} % scedilla
12265 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140} % Scaron
12266 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141} % scaron
12267 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142} % Tcedilla
12268 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143} % tcedilla
12269 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144} % Tcaron
12270 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145} % tcaron
12271 \DeclareTextCommand{\textTslash}{PU}{\81\146} % Tslash
12272 \DeclareTextCommand{\texttslash}{PU}{\81\147} % tslash
12273 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150} % Utilde
12274 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151} % utilde
12275 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152} % Umacron
12276 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153} % umacron
12277 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154} % Ubreve
12278 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155} % ubreve
12279 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156} % Uring
12280 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157} % uring
12281 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160} % Udoubleacute
12282 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161} % udoubleacute
12283 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162} % Uogonek
12284 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163} % uogonek
12285 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164} % Wcircumflex
12286 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165} % wcircumflex
12287 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166} % Ycircumflex
12288 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167} % ycircumflex
12289 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170} % Ydieresis
12290 \DeclareTextCommand{\IJ}{PU}{\81\170}
12291 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171} % Zacute
12292 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172} % zacute
12293 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173} % Zdot
12294 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174} % zdot
12295 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175} % Zcaron
12296 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176} % zcaron

```

50.2.4 Latin Extended-B

```

12297 \DeclareTextCommand{\textflorin}{PU}{\81\222} % florin
12298 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315} % Acaron
12299 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316} % acaron
12300 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317} % Icaron

```

```

12301 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320} % icaron
12302 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320} % icaron
12303 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321} % Ocaron
12304 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322} % ocaron
12305 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323} % Ucaron
12306 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324} % ucaron
12307 \DeclareTextCommand{\textGslash}{PU}{\81\344} % Gslash
12308 \DeclareTextCommand{\textgslash}{PU}{\81\345} % gslash
12309 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346} % Gcaron
12310 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347} % gcaron
12311 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350} % Kcaron
12312 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351} % kcaron
12313 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352} % Oogonek
12314 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353} % oogonek

```

50.2.5 Greek

```

12315 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}
12316 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}
12317 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}
12318 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}
12319 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}
12320 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}
12321 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}
12322 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}
12323 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}
12324 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}
12325 \DeclareTextCommand{\'}{PU}{\textIotadieresis}{\83\220}
12326 \DeclareTextCommand{\textAlpha}{PU}{\83\221}
12327 \DeclareTextCommand{\textBeta}{PU}{\83\222}
12328 \DeclareTextCommand{\textGamma}{PU}{\83\223}
12329 \DeclareTextCommand{\textDelta}{PU}{\83\224}
12330 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}
12331 \DeclareTextCommand{\textZeta}{PU}{\83\226}
12332 \DeclareTextCommand{\textEta}{PU}{\83\227}
12333 \DeclareTextCommand{\textTheta}{PU}{\83\230}
12334 \DeclareTextCommand{\textIota}{PU}{\83\231}
12335 \DeclareTextCommand{\textKappa}{PU}{\83\232}
12336 \DeclareTextCommand{\textLambda}{PU}{\83\233}
12337 \DeclareTextCommand{\textMu}{PU}{\83\234}
12338 \DeclareTextCommand{\textNu}{PU}{\83\235}
12339 \DeclareTextCommand{\textXi}{PU}{\83\236}
12340 \DeclareTextCommand{\textOmicron}{PU}{\83\237}
12341 \DeclareTextCommand{\textPi}{PU}{\83\240}
12342 \DeclareTextCommand{\textRho}{PU}{\83\241}
12343 \DeclareTextCommand{\textSigma}{PU}{\83\243}
12344 \DeclareTextCommand{\textTau}{PU}{\83\244}
12345 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}
12346 \DeclareTextCommand{\textPhi}{PU}{\83\246}
12347 \DeclareTextCommand{\textChi}{PU}{\83\247}
12348 \DeclareTextCommand{\textPsi}{PU}{\83\250}
12349 \DeclareTextCommand{\textOmega}{PU}{\83\251}
12350 \DeclareTextCompositeCommand{"}{PU}{\textIota}{\83\252}
12351 \DeclareTextCompositeCommand{"}{PU}{\textUpsilon}{\83\253}
12352 \DeclareTextCompositeCommand{\'}{PU}{\textalpha}{\83\254}
12353 \DeclareTextCompositeCommand{\'}{PU}{\textepsilon}{\83\255}
12354 \DeclareTextCompositeCommand{\'}{PU}{\texteta}{\83\256}
12355 \DeclareTextCompositeCommand{\'}{PU}{\textiota}{\83\257}

```

```

12356 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}
12357 \DeclareTextCompositeCommand{"}{PU}{\textupsilonacute}{\83\260}
12358 \DeclareTextCommand{\textalpha}{PU}{\83\261}
12359 \DeclareTextCommand{\textbeta}{PU}{\83\262}
12360 \DeclareTextCommand{\textgamma}{PU}{\83\263}
12361 \DeclareTextCommand{\textdelta}{PU}{\83\264}
12362 \DeclareTextCommand{\textepsilon}{PU}{\83\265}
12363 \DeclareTextCommand{\textzeta}{PU}{\83\266}
12364 \DeclareTextCommand{\texteta}{PU}{\83\267}
12365 \DeclareTextCommand{\texttheta}{PU}{\83\270}
12366 \DeclareTextCommand{\textiota}{PU}{\83\271}
12367 \DeclareTextCommand{\textkappa}{PU}{\83\272}
12368 \DeclareTextCommand{\textlambda}{PU}{\83\273}
12369 \DeclareTextCommand{\textmu}{PU}{\83\274}
12370 \DeclareTextCommand{\textnu}{PU}{\83\275}
12371 \DeclareTextCommand{\textxi}{PU}{\83\276}
12372 \DeclareTextCommand{\textomicron}{PU}{\83\277}
12373 \DeclareTextCommand{\textpi}{PU}{\83\300}
12374 \DeclareTextCommand{\textrho}{PU}{\83\301}
12375 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}
12376 \DeclareTextCommand{\textsigma}{PU}{\83\303}
12377 \DeclareTextCommand{\texttau}{PU}{\83\304}
12378 \DeclareTextCommand{\textupsilon}{PU}{\83\305}
12379 \DeclareTextCommand{\textphi}{PU}{\83\306}
12380 \DeclareTextCommand{\textchi}{PU}{\83\307}
12381 \DeclareTextCommand{\textpsi}{PU}{\83\310}
12382 \DeclareTextCommand{\textomega}{PU}{\83\311}
12383 \DeclareTextCompositeCommand{"}{PU}{\textiota}{\83\312}
12384 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\313}
12385 \DeclareTextCompositeCommand{'}{PU}{\textomicron}{\83\314}
12386 \DeclareTextCompositeCommand{'}{PU}{\textupsilon}{\83\315}
12387 \DeclareTextCompositeCommand{'}{PU}{\textomega}{\83\316}
12388 %\DeclareTextCommand{\textvartheta}{PU}{\83\321}
12389 %\DeclareTextCommand{\textvarphi}{PU}{\83\325}
12390 %\DeclareTextCommand{\textvarpi}{PU}{\83\326}
12391 \DeclareTextCommand{\textStigmagreek}{PU}{\83\332}
12392 \DeclareTextCommand{\textstigmagreek}{PU}{\83\333}
12393 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}
12394 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}
12395 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}
12396 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}
12397 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}
12398 \DeclareTextCommand{\textsampigreek}{PU}{\83\341}
12399 %\DeclareTextCommand{\textvarkappa}{PU}{\83\360}
12400 %\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.

```

12401 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% IO
12402 \DeclareTextCompositeCommand{"}{PU}{\CYRE}{\84\001}%
12403 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% DJE
12404 \DeclareTextCompositeCommand{'}{PU}{\CYRG}{\84\003}% GJE
12405 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% ukrainian IE
12406 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% DZE
12407 \DeclareTextCommand{\CYRII}{PU}{\84\006}% byelorussian-ukrainian I
12408 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% YI

```

12409 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% JE
12410 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% LJE
12411 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% NJE
12412 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% TSHE
12413 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% KJE
12414 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% short U
12415 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% DZHE
12416 \DeclareTextCommand{\CYRA}{PU}{\84\020}% A
12417 \DeclareTextCommand{\CYRB}{PU}{\84\021}% BE
12418 \DeclareTextCommand{\CYRV}{PU}{\84\022}% VE
12419 \DeclareTextCommand{\CYRG}{PU}{\84\023}% GHE
12420 \DeclareTextCommand{\CYRD}{PU}{\84\024}% DE
12421 \DeclareTextCommand{\CYRE}{PU}{\84\025}% IE
12422 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% ZHE
12423 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% ZE
12424 \DeclareTextCommand{\CYRI}{PU}{\84\030}% I
12425 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% short I
12426 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}%
12427 \DeclareTextCommand{\CYRK}{PU}{\84\032}% KA
12428 \DeclareTextCommand{\CYRL}{PU}{\84\033}% EL
12429 \DeclareTextCommand{\CYRM}{PU}{\84\034}% EM
12430 \DeclareTextCommand{\CYRN}{PU}{\84\035}% EN
12431 \DeclareTextCommand{\CYRO}{PU}{\84\036}% O
12432 \DeclareTextCommand{\CYRP}{PU}{\84\037}% PE
12433 \DeclareTextCommand{\CYRR}{PU}{\84\040}% ER
12434 \DeclareTextCommand{\CYRS}{PU}{\84\041}% ES
12435 \DeclareTextCommand{\CYRT}{PU}{\84\042}% TE
12436 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U
12437 \DeclareTextCommand{\CYRF}{PU}{\84\044}% EF
12438 \DeclareTextCommand{\CYRH}{PU}{\84\045}% HA
12439 \DeclareTextCommand{\CYRC}{PU}{\84\046}% TSE
12440 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% CHE
12441 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% SHA
12442 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% SHCHA
12443 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% HARD SIGN
12444 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% YERU
12445 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% SOFT SIGN
12446 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% E
12447 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% YU
12448 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% YA
12449 \DeclareTextCommand{\cyra}{PU}{\84\060}% a
12450 \DeclareTextCommand{\cyrb}{PU}{\84\061}% be
12451 \DeclareTextCommand{\cyrv}{PU}{\84\062}% ve
12452 \DeclareTextCommand{\cyrg}{PU}{\84\063}% ghe
12453 \DeclareTextCommand{\cyrd}{PU}{\84\064}% de
12454 \DeclareTextCommand{\cyre}{PU}{\84\065}% ie
12455 \DeclareTextCommand{\cyrzh}{PU}{\84\066}% zhe
12456 \DeclareTextCommand{\cyrz}{PU}{\84\067}% ze
12457 \DeclareTextCommand{\cyri}{PU}{\84\070}% i
12458 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% short i
12459 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}%
12460 \DeclareTextCommand{\cyrk}{PU}{\84\072}% ka
12461 \DeclareTextCommand{\cyr1}{PU}{\84\073}% el
12462 \DeclareTextCommand{\cyrn}{PU}{\84\074}% em
12463 \DeclareTextCommand{\cyrn}{PU}{\84\075}% en
12464 \DeclareTextCommand{\cyro}{PU}{\84\076}% o
12465 \DeclareTextCommand{\cyrp}{PU}{\84\077}% pe

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12466 \DeclareTextCommand{\cyrr}{PU}{\84\100}% er
12467 \DeclareTextCommand{\cyrS}{PU}{\84\101}% es
12468 \DeclareTextCommand{\cyrT}{PU}{\84\102}% te
12469 \DeclareTextCommand{\cyru}{PU}{\84\103}% u
12470 \DeclareTextCommand{\cyrf}{PU}{\84\104}% ef
12471 \DeclareTextCommand{\cyrh}{PU}{\84\105}% ha
12472 \DeclareTextCommand{\cyrC}{PU}{\84\106}% tse
12473 \DeclareTextCommand{\cyrch}{PU}{\84\107}% che
12474 \DeclareTextCommand{\cyrsh}{PU}{\84\110}% sha
12475 \DeclareTextCommand{\cyrshch}{PU}{\84\111}% shcha
12476 \DeclareTextCommand{\cyrhrdsn}{PU}{\84\112}% hard sign
12477 \DeclareTextCommand{\cyrery}{PU}{\84\113}% yeru
12478 \DeclareTextCommand{\cyrSftsn}{PU}{\84\114}% soft sign
12479 \DeclareTextCommand{\cyrerev}{PU}{\84\115}% e
12480 \DeclareTextCommand{\cyrYu}{PU}{\84\116}% yu
12481 \DeclareTextCommand{\cyrYa}{PU}{\84\117}% ya
12482 \DeclareTextCommand{\cyrYo}{PU}{\84\121}% io
12483 \DeclareTextCompositeCommand{"}{PU}{\cyrC}{\84\121}%
12484 \DeclareTextCommand{\cyrdje}{PU}{\84\122}% dje
12485 \DeclareTextCompositeCommand{'}{PU}{\cyrG}{\84\123}% gje
12486 \DeclareTextCommand{\cyrIe}{PU}{\84\124}% ukrainian ie
12487 \DeclareTextCommand{\cyrdze}{PU}{\84\125}% dze
12488 \DeclareTextCommand{\cyrIi}{PU}{\84\126}% byelorussian-ukrainian i
12489 \DeclareTextCommand{\cyrYi}{PU}{\84\127}% yi
12490 \DeclareTextCommand{\cyrJe}{PU}{\84\130}% je
12491 \DeclareTextCommand{\cyrLje}{PU}{\84\131}% lje
12492 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% nje
12493 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% tshe
12494 \DeclareTextCompositeCommand{'}{PU}{\cyrK}{\84\134}% kje
12495 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% short u
12496 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% dzhe
12497 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% OMEGA
12498 \DeclareTextCommand{\cyromega}{PU}{\84\141}% omega
12499 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% YAT
12500 \DeclareTextCommand{\cyrYat}{PU}{\84\143}% yat
12501 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% iotified E
12502 \DeclareTextCommand{\cyriote}{PU}{\84\145}% iotified e
12503 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% little YUS
12504 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% little yus
12505 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% iotified little YUS
12506 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% iotified little yus
12507 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% big YUS
12508 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% big yus
12509 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% iotified big YUS
12510 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% iotified big yus
12511 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% KSI
12512 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% ksi
12513 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% PSI
12514 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% psi
12515 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% FITA
12516 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% fita
12517 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% IZHITSA
12518 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% izhitsa
12519 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% IZHITSA double grave
12520 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% izhitsa double grave
12521 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% UK
12522 \DeclareTextCommand{\cyruk}{PU}{\84\171}% uk

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12523 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% round OMEGA
12524 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% round omega
12525 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% OMEGA titlo
12526 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% omega titlo
12527 \DeclareTextCommand{\CYROT}{PU}{\84\176}% OT
12528 \DeclareTextCommand{\cyrot}{PU}{\84\177}% ot
12529 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% KOPPA
12530 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% koppa
12531 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% thousands sign
12532 %\DeclareTextCommand{\COMBINING TITLO}{PU}{\84\203}% COMBINING TITLO
12533 %\DeclareTextCommand{\COMBINING PALATALIZATION}{PU}{\84\204}% COMBINING PALATALIZATION
12534 %\DeclareTextCommand{\COMBINING DASIA PNEUMATA}{PU}{\84\205}% COMBINING DASIA PNEUMATA
12535 %\DeclareTextCommand{\COMBINING PSILI PNEUMATA}{PU}{\84\206}% COMBINING PSILI PNEUMATA
12536 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% GHE upturn
12537 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% ghe upturn
12538 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% GHE stroke
12539 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% ghe stroke
12540 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% GHE middle hook
12541 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% ghe middle hook
12542 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% ZHE descender
12543 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% zhe descender
12544 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% ZE descender
12545 \DeclareTextCommand{\cyrzdsc}{PU}{\84\231}% ze descender
12546 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% KA descender
12547 \DeclareTextCommand{\cyrkds}{PU}{\84\233}% ka descender
12548 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% KA vertical stroke
12549 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% ka vertical stroke
12550 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% KA stroke
12551 \DeclareTextCommand{\cyrkhrs}{PU}{\84\237}% ka stroke
12552 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% bashkir KA
12553 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% bashkir ka
12554 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% EN descender
12555 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% en descender
12556 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% ligature EN GHE
12557 \DeclareTextCommand{\cyrng}{PU}{\84\245}% ligature en ghe
12558 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% PE middle hook
12559 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% pe middle hook
12560 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% abkhasian HA
12561 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% abkhasian ha
12562 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% ES descender
12563 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% es descender
12564 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% TE descender
12565 \DeclareTextCommand{\cyrtdsc}{PU}{\84\255}% te descender
12566 \DeclareTextCommand{\CYRY}{PU}{\84\256}% straight U
12567 \DeclareTextCommand{\cyry}{PU}{\84\257}% straight u
12568 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% straight U stroke
12569 \DeclareTextCommand{\cyrhcrs}{PU}{\84\261}% straight u stroke
12570 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% HA descender
12571 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% ha descender
12572 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% ligature TE TSE
12573 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% ligature te tse
12574 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% CHE descender
12575 \DeclareTextCommand{\cyrchrdsc}{PU}{\84\267}% che descender
12576 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% CHE vertical stroke
12577 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% che vertical stroke
12578 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% SHHA
12579 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% shha

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12580 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% abkhasian CHE
12581 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% abkhasian che
12582 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% abkhasian CHE descender
12583 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% abkhasian che descender
12584 \DeclareTextCommand{\CYRpaloChka}{PU}{\84\300}% palochka
12585 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% ZHE breve
12586 \DeclareTextCompositeCommand{\U}{PU}{\cyrz}{\84\302}% zhe breve
12587 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% KA hook
12588 \DeclareTextCommand{\cyrk}{PU}{\84\304}% ka hook
12589 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% EN hook
12590 \DeclareTextCommand{\cyrn}{PU}{\84\310}% en hook
12591 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% khakassian CHE
12592 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% khakassian che
12593 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% A breve
12594 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% a breve
12595 \DeclareTextCompositeCommand{"}{PU}{\CYRA}{\84\322}% A diaeresis
12596 \DeclareTextCompositeCommand{"}{PU}{\cyra}{\84\323}% a diaeresis
12597 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% ligature A IE
12598 \DeclareTextCommand{\cyrae}{PU}{\84\325}% ligature a ie
12599 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% IE breve
12600 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% ie breve
12601 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% SCHWA
12602 \DeclareTextCommand{\cyrschwa}{PU}{\84\331}% schwa
12603 \DeclareTextCompositeCommand{"}{PU}{\CYRSCHWA}{\84\332}% SCHWA diaeresis
12604 \DeclareTextCompositeCommand{"}{PU}{\cyrschwa}{\84\333}% schwa diaeresis
12605 \DeclareTextCompositeCommand{"}{PU}{\CYRZH}{\84\334}% ZHE diaeresis
12606 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\335}% zhe diaeresis
12607 \DeclareTextCompositeCommand{"}{PU}{\CYRZ}{\84\336}% ZE diaeresis
12608 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\337}% ze diaeresis
12609 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% abkhasian DZE
12610 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% abkhasian dze
12611 \DeclareTextCompositeCommand{=}{PU}{\CYRI}{\84\342}% I macron
12612 \DeclareTextCompositeCommand{=}{PU}{\cyri}{\84\343}% i macron
12613 \DeclareTextCompositeCommand{"}{PU}{\CYRI}{\84\344}% I diaeresis
12614 \DeclareTextCompositeCommand{"}{PU}{\cyri}{\84\345}% i diaeresis
12615 \DeclareTextCompositeCommand{"}{PU}{\CYRO}{\84\346}% O diaeresis
12616 \DeclareTextCompositeCommand{"}{PU}{\cyro}{\84\347}% o diaeresis
12617 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% barred O
12618 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% barred o
12619 \DeclareTextCompositeCommand{"}{PU}{\CYROTLD}{\84\352}% barred O diaeresis
12620 \DeclareTextCompositeCommand{"}{PU}{\cyrotld}{\84\353}% barred o diaeresis
12621 \DeclareTextCompositeCommand{=}{PU}{\CYRU}{\84\356}% U macron
12622 \DeclareTextCompositeCommand{=}{PU}{\cyru}{\84\357}% u macron
12623 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U diaeresis
12624 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\361}% u diaeresis
12625 \DeclareTextCompositeCommand{\H}{PU}{\CYRU}{\84\362}% U double acute
12626 \DeclareTextCompositeCommand{\H}{PU}{\cyru}{\84\363}% u double acute
12627 \DeclareTextCompositeCommand{"}{PU}{\CYRCH}{\84\364}% CHE diaeresis
12628 \DeclareTextCompositeCommand{"}{PU}{\cyrch}{\84\365}% che diaeresis
12629 \DeclareTextCompositeCommand{"}{PU}{\CYRERY}{\84\370}% YERU diaeresis
12630 \DeclareTextCompositeCommand{"}{PU}{\cyrery}{\84\371}% yeru diaeresis

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50.2.7 Symbols

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12631 \DeclareTextCommand{\textendash}{PU}{\9040\023} % endash
12632 \DeclareTextCommand{\textemdash}{PU}{\9040\024} % emdash
12633 \DeclareTextCommand{\textquotelleft}{PU}{\9040\030} % quoteleft

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12634 \DeclareTextCommand{\textquoteright}{PU}{\9040\031} % quoteright
12635 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032} % quotesinglbase
12636 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034} % quotedblleft
12637 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035} % quotedblright
12638 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036} % quotedblbase
12639 \DeclareTextCommand{\textdagger}{PU}{\9040\040} % dagger
12640 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041} % daggerdbl
12641 \DeclareTextCommand{\textbullet}{PU}{\9040\042} % bullet
12642 \DeclareTextCommand{\textellipsis}{PU}{\9040\046} % ellipsis
12643 \DeclareTextCommand{\textperthousand}{PU}{\9040\060} % perthousand
12644 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061} % pertenthousand
12645 \DeclareTextCommand{\guilsinglleft}{PU}{\9040\071} % guilsinglleft
12646 \DeclareTextCommand{\guilsinglright}{PU}{\9040\072} % guilsinglright
12647 \DeclareTextCommand{\textfractionmark}{PU}{\9040\104} % fraction slash
12648 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160} % superscript zero
12649 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164} % superscript four
12650 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165} % superscript five
12651 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166} % superscript six
12652 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167} % superscript seven
12653 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170} % superscript eight
12654 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171} % superscript nine
12655 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200} % subscript zero
12656 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201} % subscript one
12657 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202} % subscript two
12658 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203} % subscript three
12659 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204} % subscript four
12660 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205} % subscript five
12661 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206} % subscript six
12662 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207} % subscript seven
12663 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210} % subscript eight
12664 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211} % subscript nine
12665 \DeclareTextCommand{\texteuro}{PU}{\9040\254} % Euro
12666 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}
12667 \DeclareTextCommand{\textnumero}{PU}{\9041\026}
12668 \DeclareTextCommand{\texttrademark}{PU}{\9041\042} % trademark
12669 %\DeclareTextCommand{\cyrrangle}{PU}{\9043\051}
12670 %\DeclareTextCommand{\cyrangle}{PU}{\9043\052}

12671 </puenc>

```

50.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

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12672 <*puvnenc>

12673 \DeclareTextCommand{\abreve}{PU}{\81\003}
12674 \DeclareTextCommand{\acircumflex}{PU}{\80\342}
12675 \DeclareTextCommand{\dj}{PU}{\81\021}
12676 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}
12677 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}
12678 \DeclareTextCommand{\ohorn}{PU}{\81\241}
12679 \DeclareTextCommand{\uhorn}{PU}{\81\260}
12680 \DeclareTextCommand{\ABREVE}{PU}{\81\002}
12681 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}
12682 \DeclareTextCommand{\DJ}{PU}{\81\020}
12683 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}
12684 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}
12685 \DeclareTextCommand{\OHORN}{PU}{\81\240}
12686 \DeclareTextCommand{\UHORN}{PU}{\81\257}

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12687 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}
12688 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}
12689 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}
12690 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}
12691 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}
12692 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}
12693 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}
12694 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\261}
12695 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}
12696 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}
12697 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}
12698 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}
12699 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\247}
12700 \DeclareTextCompositeCommand{\h}{PU}{\acircumflex}{\9036\251}
12701 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}
12702 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}
12703 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}
12704 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}
12705 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}
12706 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}
12707 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}
12708 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}
12709 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\301}
12710 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}
12711 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}
12712 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}
12713 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}
12714 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}
12715 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}
12716 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}
12717 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}
12718 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}
12719 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}
12720 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}
12721 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}
12722 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}
12723 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}
12724 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\323}
12725 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}
12726 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}
12727 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}
12728 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}
12729 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\335}
12730 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}
12731 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\341}
12732 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}
12733 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}
12734 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}
12735 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}
12736 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}
12737 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}
12738 \DeclareTextCompositeCommand{\d}{PU}{\uhorn}{\9036\361}
12739 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\353}
12740 \DeclareTextCompositeCommand{\h}{PU}{\uhorn}{\9036\355}
12741 \DeclareTextCompositeCommand{\~}{PU}{\uhorn}{\9036\357}
12742 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}
12743 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}

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12744 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}
12745 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}
12746 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}
12747 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}
12748 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}
12749 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\300}
12750 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}
12751 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}
12752 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}
12753 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}
12754 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\260}
12755 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}
12756 \DeclareTextCompositeCommand{\~}{PU}{\ABREVE}{\9036\264}
12757 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\244}
12758 \DeclareTextCompositeCommand{\d}{PU}{\ACIRCUMFLEX}{\9036\254}
12759 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\246}
12760 \DeclareTextCompositeCommand{\h}{PU}{\ACIRCUMFLEX}{\9036\250}
12761 \DeclareTextCompositeCommand{\~}{PU}{\ACIRCUMFLEX}{\9036\252}
12762 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}
12763 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}
12764 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\310}
12765 \DeclareTextCompositeCommand{\h}{PU}{E}{\9036\272}
12766 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}
12767 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\276}
12768 \DeclareTextCompositeCommand{\d}{PU}{\ECIRCUMFLEX}{\9036\306}
12769 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\300}
12770 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}
12771 \DeclareTextCompositeCommand{\~}{PU}{\ECIRCUMFLEX}{\9036\304}
12772 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}
12773 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}
12774 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\314}
12775 \DeclareTextCompositeCommand{\h}{PU}{I}{\9036\310}
12776 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}
12777 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}
12778 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}
12779 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\322}
12780 \DeclareTextCompositeCommand{\h}{PU}{O}{\9036\316}
12781 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}
12782 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}
12783 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}
12784 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\322}
12785 \DeclareTextCompositeCommand{\h}{PU}{\OCIRCUMFLEX}{\9036\324}
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12788 \DeclareTextCompositeCommand{\d}{PU}{\OHORN}{\9036\342}
12789 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\334}
12790 \DeclareTextCompositeCommand{\h}{PU}{\OHORN}{\9036\336}
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12806 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}
12807 </puvnc>

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50.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

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12808 <*puarenc>
12809 \DeclareTextCommand{\hamza}{PU}{\86\041}% 0621;afii57409;ARABIC LETTER HAMZA
12810 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% 0622;afii57410;ARABIC LETTER ALEF WITH MADDA
12811 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% 0623;afii57411;ARABIC LETTER ALEF WITH HAMZA
12812 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% 0624;afii57412;ARABIC LETTER WAW WITH HAMZA
12813 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% 0625;afii57413;ARABIC LETTER ALEF WITH HAMZA ABOVE
12814 \DeclareTextCommand{\yahamza}{PU}{\86\046}% 0626;afii57414;ARABIC LETTER YEH WITH HAMZA ABOVE
12815 \DeclareTextCommand{\alef}{PU}{\86\047}% 0627;afii57415;ARABIC LETTER ALEF
12816 \DeclareTextCommand{\baa}{PU}{\86\050}% 0628;afii57416;ARABIC LETTER BEH
12817 \DeclareTextCommand{\T}{PU}{\86\051}% 0629;afii57417;ARABIC LETTER TEH MARBUTA
12818 \DeclareTextCommand{\taa}{PU}{\86\052}% 062A;afii57418;ARABIC LETTER TEH
12819 \DeclareTextCommand{\thaa}{PU}{\86\053}% 062B;afii57419;ARABIC LETTER THEH
12820 \DeclareTextCommand{\jeem}{PU}{\86\054}% 062C;afii57420;ARABIC LETTER JEEM
12821 \DeclareTextCommand{\Haa}{PU}{\86\055}% 062D;afii57421;ARABIC LETTER HAH
12822 \DeclareTextCommand{\kha}{PU}{\86\056}% 062E;afii57422;ARABIC LETTER KHAH
12823 \DeclareTextCommand{\dal}{PU}{\86\057}% 062F;afii57423;ARABIC LETTER DAL
12824 \DeclareTextCommand{\dhal}{PU}{\86\060}% 0630;afii57424;ARABIC LETTER THAL
12825 \DeclareTextCommand{\ra}{PU}{\86\061}% 0631;afii57425;ARABIC LETTER REH
12826 \DeclareTextCommand{\zay}{PU}{\86\062}% 0632;afii57426;ARABIC LETTER ZAIN
12827 \DeclareTextCommand{\seen}{PU}{\86\063}% 0633;afii57427;ARABIC LETTER SEEN
12828 \DeclareTextCommand{\sheen}{PU}{\86\064}% 0634;afii57428;ARABIC LETTER SHEEN
12829 \DeclareTextCommand{\sad}{PU}{\86\065}% 0635;afii57429;ARABIC LETTER SAD
12830 \DeclareTextCommand{\dad}{PU}{\86\066}% 0636;afii57430;ARABIC LETTER DAD
12831 \DeclareTextCommand{\Ta}{PU}{\86\067}% 0637;afii57431;ARABIC LETTER TAH
12832 \DeclareTextCommand{\za}{PU}{\86\070}% 0638;afii57432;ARABIC LETTER ZAH
12833 \DeclareTextCommand{\ayn}{PU}{\86\071}% 0639;afii57433;ARABIC LETTER AIN
12834 \DeclareTextCommand{\ghayn}{PU}{\86\072}% 063A;afii57434;ARABIC LETTER GHAIN
12835 \DeclareTextCommand{\tatweel}{PU}{\86\100}% 0640;afii57440;ARABIC TATWEEL
12836 \DeclareTextCommand{\fa}{PU}{\86\101}% 0641;afii57441;ARABIC LETTER FEH
12837 \DeclareTextCommand{\qaf}{PU}{\86\102}% 0642;afii57442;ARABIC LETTER QAF
12838 \DeclareTextCommand{\kaf}{PU}{\86\103}% 0643;afii57443;ARABIC LETTER KAF
12839 \DeclareTextCommand{\lam}{PU}{\86\104}% 0644;afii57444;ARABIC LETTER LAM
12840 \DeclareTextCommand{\meem}{PU}{\86\105}% 0645;afii57445;ARABIC LETTER MEEM
12841 \DeclareTextCommand{\nun}{PU}{\86\106}% 0646;afii57446;ARABIC LETTER NOON
12842 \DeclareTextCommand{\ha}{PU}{\86\107}% 0647;afii57470;ARABIC LETTER HEH
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12847 \DeclareTextCommand{\raff}{PU}{\86\114}% 064C;afii57452;ARABIC DAMMATAN
12848 \DeclareTextCommand{\jarr}{PU}{\86\115}% 064D;afii57453;ARABIC KASRATAN
12849 \DeclareTextCommand{\fatha}{PU}{\86\116}% 064E;afii57454;ARABIC FATHA
12850 \DeclareTextCommand{\damma}{PU}{\86\117}% 064F;afii57455;ARABIC DAMMA
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12852 \DeclareTextCommand{\shadda}{PU}{\86\121}% 0651;afii57457;ARABIC SHADDA

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Farsi
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12857 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% 06A9???;afii?????;FARSI LETTER KAF
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12861 \DeclareTextCommand{\noboundary}{PU}{\86\325}% 200D;ZWJ
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51 End of file hycheck.tex

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12865 \begin{document}
12866 \end{document}
12867 </check>

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