

Hypertext marks in \LaTeX

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1 Documentation overview for `hyperref`

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

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

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

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

Options This file provides a short option summary.

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

Bookmark talk, paper The paper version of the talk.

Source code documentation:

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

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

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

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3 File hycheck.tex

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

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

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

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

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

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

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

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

`\HyC@checkPackage`

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

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

```

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

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

```

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

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

```

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

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

```

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

`\HyC@noValue`

```

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

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

```

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

```

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

```

90 \newtoks\HyC@Toks

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```



```

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

```

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

```

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

```

`\HyC@checkItem` A single check.

```

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

```

`\HyC@string` Some shorthands.

```

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

```

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

```

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

```

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

```

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

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

```

4 Package options and setup

4.1 Save catcodes

There are many packages that change the standard catcodes.

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

```

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

```

\Hy@SetCatcodes

```

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

```

\Hy@RestoreCatcodes

```

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

```

```

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

```

```
231 \Hy@SetCatcodes
```

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

```

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

```

4.2 Compatibility with format dumps

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

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

```

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

```

4.3 Switches

```

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

```

```

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

```

Defaults for the switches are now set.

```

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

```

```

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

```

5 Common help macros

`\Hy@StepCount`

```

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

```

`\Hy@GlobalStepCount`

```

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

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

```

5.1 Macros for recursions

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

```

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

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

```

5.2 Babel's protection of shorthand characters

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

```

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

```

5.3 Coordinate transformations

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

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

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

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

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

Example (T_EX):

```

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

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

```

```

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

```

6 Dealing with PDF strings

The PDF string stuff done by Heiko Oberdiek.

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

6.1 Description of PDF strings

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

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

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

6.2 Definition of `\pdfstringdef`

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

Important: In \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`.

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

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

```
379 \begingroup
```

6.2.1 Preprocessing

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

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

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

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

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

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

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

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

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

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

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

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

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


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

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

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

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

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

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

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

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

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

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

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

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

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

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

```

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

```

Package color.

```

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

```

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

```

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

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

```

Disable `\cyr`, used in russianb.ldf.

```

460 \let\cyr\relax

```

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

```

461 \let\es@roman\@Roman

```

Package german.

```

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

```

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

Package FrenchPro. This package uses:

```

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

```

AMS classes.

```

471 \HyPsd@AMSclassfix

```

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

```

472 \let\hspace\HyPsd@hspace

```

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

```

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

```

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

```

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

```

Miscellaneous commands.

```

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

```

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

```

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

```

Patch for cjk bookmarks.

```

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

```

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

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

```

488 \Hy@pdfstringtrue
489 \pdfstringdefPreHook

```

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

```

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

```

Package xspace.

```

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

```

Redefinitions of miscellaneous commands. Hyphenation does not make sense.

```

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

```

```

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

```

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

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

```

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

```

6.2.2 Expansion

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

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

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

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

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

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

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

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

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

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

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

6.2.3 Postprocessing

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

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

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

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

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

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

```

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

```

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

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

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

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

```

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

```

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

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

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

```

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

```

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

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

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

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

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

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

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

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

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

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

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

```

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

```

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

```

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

```

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

```

581     \let\HyPsd@empty\@empty

```

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

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

```

582     \ifHy@unicode
583     \HyPsd@StringSubst{\( \textparenleft#1%
584     \HyPsd@Subst(\textparenleft#1%
585     \else
586     \HyPsd@StringSubst{\( \050}#1%
587     \HyPsd@Subst({\050}#1%
588     \HyPsd@StringSubst{\050}{\string\()}#1%
589     \fi

```

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

With Unicode the spaces are replaced by their octal sequences.

```

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

```


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

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

Try conversion back to PDFDocEncoding.

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

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

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

\Hy@pdfstringdef

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

6.3 Encodings

6.3.1 PD1 encoding

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

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

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

6.3.2 PU encoding

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

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

```

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

```

6.4 Additional user commands

6.4.1 `\texorpdfstring`

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

```

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

```

6.4.2 Hooks for `\pdfstringdef`

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

```

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

```

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

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

```

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

```

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

```

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

```

```

648 \HyPsd@DisableCommands
649 }

```

`\HyPsd@DisableCommands`

```

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

```

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

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

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

```

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

```

6.5 Help macros for expansion

6.5.1 Babel languages

```

659 \newif\ifHy@next

```

Nothing to do for english.

```

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

```

```

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

```

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

```

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

```

```

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

```

```

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

```

```

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

```

6.5.2 CJK bookmarks

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

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

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

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

```

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

```

```

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

```

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

```

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

```

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

```

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

```



```

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

```

6.5.3 \@inmathwarn-Patch

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

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

```

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

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

```

```

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

```

6.5.4 \add@accent-Patch

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

\HyPsd@add@accent

```

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

```

6.5.5 Unexpandable spaces

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

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

These properties are used in \HyPsd@CheckCatcodes.

```

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

```

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

```

981 \HyPsd@LetUnexpandableSpace\HyPsd@UnexpandableSpace

```

6.5.6 Marker for commands

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

```

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

```

6.5.7 \hspace fix

\HyPsd@hspace

```

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

```

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

```

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

```

```

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

```

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

```

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

```

6.5.8 Fix for AMS classes

```

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

```

6.5.9 Reference commands

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

```

1069 \fi
1070 }

```

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

```

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

```

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

```

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

```

`\HyPsd@@@autorefname`

```

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

```

6.5.10 Redefining the defining commands

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

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

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

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

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

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

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

```

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

```

6.5.11 \ifnextchar

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

```

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

```

```

1136 \expandafter\@gobbletwo\@gobble
1137 }

```

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

```

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

```

6.5.12 `\@protected@testoptifnextchar`

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

```

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

```

6.6 Help macros for postprocessing

6.6.1 Generic warning.

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

```

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

```

6.6.2 Protecting spaces

```

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

```

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

```

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

```

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

```

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

Remove mask.

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

```

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

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

6.6.3 Remove grouping braces

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

```

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

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

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

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

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

```

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

```

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

```

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

```

6.6.4 Catcode check

Check catcodes.

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

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

```

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

```

```

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

```

Remove counts, dimens, skips.

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

```

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

```

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

```

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

```

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

```

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

```

```

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

```

Catcode warnings.

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

```

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

```

\HyPsd@RemoveSpaceWarning

```

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

```

\HyPsd@ReplaceSpaceWarning

```

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

```

6.6.5 Check for wrong glyphs

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

```

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

```

Spaces.

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

```

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

```

6.6.6 Replacing tokens

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

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

```

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

```

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

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

6.6.7 Support for package `xspace`

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

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

6.6.8 Converting to Unicode

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

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

`\HyPsd@ConvertToUnicode`

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

```

1467     |fi
1468 }%

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

```

\HyPsd@DoEscape

```

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

```

\HyPsd@GetTwoBytes

```

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

```

\HyPsd@GetOneByte

```

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

```

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

```

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

```

6.6.9 Support for UTF-8 input encoding

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

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

```

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

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

```

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

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

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

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

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

$$(5)$$

```

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

```



```

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

```

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

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

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

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

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

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

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

$$(12)$$

```

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

```

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

```

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

```

```

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

```

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

```

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

```

7 Support of other packages

7.1 Class memoir

```

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

```

7.2 Package subfigure

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

```

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

```

```

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

```

7.3 Package xr and xr-hyper

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

```

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

```

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

```

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

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

```

Providing dummy definitions.

```

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

```

8 Help macros for links

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

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

```

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

```

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

```

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

```

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

```

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

```

```

1763     \fi
1764   \fi
1765 }%

```

9 Options

9.1 Help macros

\Hy@boolkey

```

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

```

\Hy@WarnOptionValue

```

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

```

\Hy@DisableOption

```

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

```

\Hy@WarnOptionDisabled

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

`\Hy@UseNameKey`

```

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

```

```

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

```

9.2 Defining the options

```

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

```



```

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

```

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

```

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

```

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

```

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

```

Determines whether an automatic anchor is put on each page

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

1949 }

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

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

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

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

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

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

```

2004         \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
2005             \HyPsd@LoadStringEnc
2006         \fi
2007     \else
2008         \Hy@Warning{Cannot switch to unicode bookmarks}%
2009         \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2010     \fi
2011 \else
2012     \@onelevel@sanitize\HyPsd@temp
2013     \Hy@Warning{%
2014         Values of option 'pdfencoding':\MessageBreak
2015         'pdfdoc', 'unicode', 'auto'.\MessageBreak
2016         Ignoring unknown value '\HyPsd@temp'%
2017     }%
2018 \fi
2019 \fi
2020 }
2021 \def\HyPsd@pdfencoding@auto{auto}
2022 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
2023 \def\HyPsd@pdfencoding@unicode{unicode}
2024 \let\HyPsd@pdfencoding\Hy@pdfencoding@pdfdoc
2025 \def\HyPsd@LoadStringEnc{%
2026     \RequirePackage{stringenc}[2007/06/14]%
2027     \let\HyPsd@LoadStringEnc\relax
2028 }
2029 \AtBeginDocument{%
2030     \@ifpackageloaded{stringenc}{%
2031         \let\HyPsd@LoadStringEnc\relax
2032     }{%
2033         \def\HyPsd@LoadStringEnc{%
2034             \Hy@WarningNoLine{%
2035                 Missing package 'stringenc'. Use 'pdfencoding=auto'\MessageBreak
2036                 in the preamble or load the package there%
2037             }%
2038         }%
2039     }%
2040 }

2041 \newif\ifHy@setpdfversion
2042 \define@key{Hyp}{pdfversion}{%
2043     \@ifundefined{Hy@pdfversion@#1}{%
2044         \PackageWarning{hyperref}{%
2045             Unsupported PDF version '#1'.\MessageBreak
2046             Valid values: 1.2 until 1.7%
2047         }%
2048     }{%
2049         \Hy@setpdfversiontrue
2050         \edef\Hy@pdfversion{\@nameuse{Hy@pdfversion@#1}}%
2051     }%
2052 }
2053 \@namedef{Hy@pdfversion@1.2}{2}%
2054 \@namedef{Hy@pdfversion@1.3}{3}%
2055 \@namedef{Hy@pdfversion@1.4}{4}%
2056 \@namedef{Hy@pdfversion@1.5}{5}%
2057 \@namedef{Hy@pdfversion@1.6}{6}%
2058 \@namedef{Hy@pdfversion@1.7}{7}%
2059 \def\Hy@pdfversion{2}

```

10 Options for different drivers

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

```

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

```

```

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

```

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

```

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

```

11 Options to add extra features

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

```

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

```

The automatic footnote linking can be disabled by option hyperfootnotes.

```

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

```

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

```

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

```

```

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

```

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

```

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

```

Configuration of encap char.

```

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

```

12 Language options

The `\autoref` feature depends on the language.

```

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

```

```

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

```



```

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

```


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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

```

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

```

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

```

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

```

```

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

```

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

```

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

```

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

```

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

```

```

2536 }%
2537 }%
2538 }

```

13 Options to change appearance of links

Colouring links at the L^AT_EX level is useful for debugging, perhaps.

```

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

```

14 Bookmarking

```

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

```

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

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

```

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

```

```

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

```

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

```

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

```

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

```

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

```

Option CJKbookmarks enables the patch for CJK bookmarks.

```

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

```

```

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

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

```

15 PDF-specific options

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

```

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

```

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

```

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

```

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

```

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

```

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

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

```

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

```



```

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

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

```

```

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

```

```

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

```

```

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

```

Default values:

```

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

```

```

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

```

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

```

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

```

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

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

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

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

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

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

After processing options.

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

15.1 PDF/A

```
2967 \Hy@DisableOption{pdfa}

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

```

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

```

15.2 Patch for babel’s \texttilde

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

```

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

```

15.3 Patch for babel 3.8j

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

```

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

```

```

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

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

```



```

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

```

15.3.1 Driver loading

```

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

```

```

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

```

```

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

```

15.3.2 Bookmarks

```

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

```

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

```

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

```

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

```

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

```

```

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

```

16 User hypertext macros

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

```

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

```

```

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

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

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

```

```

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

```

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

```

3411 \RequirePackage{url}
3412 \let\HyOrg@url\url
3413 \def\Hurl{\begingroup \Url}
3414 \DeclareRobustCommand*\nolinkurl{\hyper@normalise\nolinkurl@}
3415 \def\nolinkurl@#1{\Hurl{#1}}
3416 \DeclareRobustCommand*\url{\hyper@normalise\url@}
3417 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}

3418 \DeclareRobustCommand*\hyperimage{\hyper@normalise\hyper@image}
3419 \providecommand\hyper@image[2]{#2}

3420 \def\hypertarget#1#2{\%
3421 \ifHy@nesting
3422 \hyper@@anchor{#1}{#2}%
3423 \else
3424 \hyper@@anchor{#1}{\relax}#2%
3425 \fi
3426 }

```

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

```

3427 \DeclareRobustCommand*\hyperref{\%
3428 \@ifnextchar[{\Hy@babelnormalise\label@hyperref}\@hyperref
3429 }
3430 \def\Hy@babelnormalise#1[#2]{\%
3431 \begingroup
3432 \Hy@safe@activestrue
3433 \edef\Hy@tempa{\%
3434 \endgroup
3435 \noexpand#1[#2]}%
3436 }%
3437 \Hy@tempa
3438 }

3439 \def\@hyperref{\hyper@normalise\@hyperref}
3440 \def\@hyperref#1#2#3{\%
3441 \edef\ref@one{\ifx\\#2\\\else#2.\fi#3}%
3442 \expandafter\tryhyper@link\ref@one\\{#1}%
3443 }
3444 \def\tryhyper@link#1\\#2{\%
3445 \hyper@@link{#2}{#1}%
3446 }

3447 \def\hyperdef{\@ifnextchar[{\label@hyperdef}\@hyperdef}}
3448 \def\@hyperdef#1#2#3{\%, category, name, text
3449 \ifHy@nesting
3450 \hyper@@anchor{#1.#2}{#3}%
3451 \else
3452 \hyper@@anchor{#1.#2}{\relax}#3%

```

```

3453 \fi
3454 }

```

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

```

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

```

17 Underlying basic hypertext macros

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

```

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

```



```

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

```

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.

```

3508 \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.

```

3509 \expandafter\@hyper@readexternallink{#2}{#3}{#4}#1::\{#1}%
3510 }

```

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

```

3511 \def\@pdftempwordfile{file}%
3512 \def\@pdftempwordrun{run}%
3513 \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:

```

3514 \ifx\#6\%
3515 \expandafter\@hyper@linkfile file:#7\{#3}{#2}%
3516 \else
3517 \ifx\#4\%
3518 \expandafter\@hyper@linkfile file:#7\{#3}{#2}%
3519 \else

```

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

```

3520 \def\@pdftempa{#4}%
3521 \ifx\@pdftempa\@pdftempwordfile
3522 \expandafter\@hyper@linkfile#7\{#3}{#2}%
3523 \else

```

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

```

3524 \ifx\@pdftempa\@pdftempwordrun
3525 \ifHy@pdfa
3526 \PackageError{hyperref}{%
3527 PDF/A: Launch action is prohibited%

```

```

3528      }\@ehc
3529      \beginngroup
3530      \leavevmode
3531      #2%
3532      \endgroup
3533      \else
3534      \expandafter\@hyper@launch#7\{\#3}\#2}%
3535      \fi
3536      \else

```

otherwise its a URL

```

3537      \hyper@linkurl{\#3}\#7\ifx\#2\\\else\hyper@hash#2\fi}%
3538      \fi
3539      \fi
3540      \fi
3541      \fi
3542 }

```

By default, turn run: into file:

```

3543 \def\@hyper@launch run:#1\#2#3{% filename, anchor text, linkname
3544   \hyper@linkurl{\#2}{%
3545     \Hy@linkfileprefix
3546     #1%
3547     \ifx\#3\%
3548     \else
3549       \hyper@hash
3550       #3%
3551     \fi
3552   }%
3553 }

```

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

```

3554 \def\@hyper@linkfile file:#1\#2#3{%
3555   %file url,link string, name
3556   \filename@parse{\#1}%
3557   \ifx\filename@ext\relax
3558     \edef\filename@ext{\XR@ext}%
3559   \fi
3560   \def\use@file{\filename@area\filename@base.\filename@ext}%
3561   \ifx\filename@ext\XR@ext
3562     \hyper@linkfile{\#2}{\use@file}\#3}%
3563   \else
3564     \ifx\@baseurl\@empty
3565       \hyper@linkurl{\#2}{%
3566         \Hy@linkfileprefix\use@file\ifx\#3\\\else\hyper@hash#3\fi
3567       }%
3568     \else
3569       \hyper@linkurl{\#2}{\use@file\ifx\#3\\\else\hyper@hash#3\fi}%
3570     \fi
3571   \fi
3572 }

```

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.

```

3573 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
3574 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
3575   \ifx\#1\%
3576     #2\Hy@WarningNoLine{empty link? #1: #2#3}%
3577   \else
3578     \def\anchor@spot{#2#3}%
3579     \let\put@me@back\@empty
3580     \ifx\relax#2\relax
3581       \else
3582         \ifHy@nesting
3583         \else
3584           \ifcat a\noexpand#2\relax
3585           \else
3586             \ifcat 0\noexpand#2 \relax
3587             \else
3588               \typeout{Anchor start is not alphanumeric %
3589               on input line\the\inputlineno%
3590               }%
3591               \let\anchor@spot\@empty
3592               \def\put@me@back{#2#3}%
3593             \fi
3594           \fi
3595         \fi
3596       \ifHy@activeanchor
3597         \anchor@spot
3598       \else
3599         \hyper@anchor{#1}%
3600       \fi
3601     \expandafter\put@me@back
3602   \fi
3603   \let\anchor@spot\@empty
3604 }
3605 }
```

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.

```

3606 \let\htmladding\hyperimage
3607 \def\htmladdnormallink#1#2{\href{#2}{#1}}
3608 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
3609 \def\htmlref#1#2{% anchor text, label
3610   \label@hyperref[{#2}]{#1}%
3611 }
```

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.

```

3612 \def\@latextohtmlX{%
3613   \let\hhyperref\hyperref
```

```

3614 \def\hyperref##1##2##3##4{% anchor text for HTML
3615                               % text to print before label in print
3616                               % label
3617                               % post-label text in print
3618     ##2\ref{##4}##3%
3619 }%
3620 }

```

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.

```

3621 \RequirePackage{bitset}

```

Each flag has an 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
3622 \def\HyField@NewFlag#1#2{%
3623   \lowercase{\HyField@NewOption{#2}}%
3624   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
3625 }

```

```

\HyField@NewFlagOnly
3626 \def\HyField@NewFlagOnly#1#2{%
3627   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
3628 }

```

```

\HyField@NewOption #1: option name
3629 \def\HyField@NewOption#1{%
3630   \expandafter\newif\csname ifFld@#1\endcsname
3631   \define@key{Field}{#1}[true]{%
3632     \lowercase{\Field@boolkey{##1}}{#1}%
3633   }%
3634 }

```

```

\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
3635 \def\HyField@NewBitsetFlag#1#2#3#4{%
3636   \begingroup
3637   \count@=#4\relax
3638   \advance\count@\m@ne

```

```

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

```

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

```

3655 \def\HyField@UseFlag#1#2{%
3656 \lowercase{\HyField@@UseFlag{#2}}{#1}%
3657 }

```

\HyField@@UseFlag

```

3658 \def\HyField@@UseFlag#1#2{%
3659 \bitsetSetValue{HyField@#2}{%
3660 \csname HyField@#2@#1\endcsname
3661 }{%
3662 \csname ifFld@#1\endcsname 1\else 0\fi
3663 }%
3664 }

```

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

```

3665 \def\HyField@SetFlag#1#2{%
3666 \lowercase{\HyField@@SetFlag{#2}}{#1}%
3667 }

```

\HyField@@SetFlag

```

3668 \def\HyField@@SetFlag#1#2{%
3669 \bitsetSetValue{HyField@#2}{%
3670 \csname HyField@#2@#1\endcsname
3671 }{1}%
3672 }

```

\HyField@PrintFlags

```

3673 \def\HyField@PrintFlags#1#2{%
3674 \ifHy@verbose
3675 \begingroup
3676 \let\Hy@temp\@empty
3677 \let\MessageBreak\relax
3678 \expandafter\@for\expandafter\x\expandafter:\expandafter=%
3679 \bitsetGetSetBitList{HyField@#1}\do{%
3680 \edef\Hy@temp{%
3681 \Hy@temp
3682 \csname HyField@#1@\x\endcsname\MessageBreak
3683 }%
3684 }%

```

```

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

```

19.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```

3698 \HyField@NewFlag{Ff}{ReadOnly}{1}
3699 \HyField@NewFlag{Ff}{Required}{2}
3700 \HyField@NewFlag{Ff}{NoExport}{3}

```

“Table 8.75 Field flags specific to button fields”

```

3701 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
3702 \HyField@NewFlag{Ff}{Radio}{16}
3703 \HyField@NewFlag{Ff}{Pushbutton}{17}
3704 \HyField@NewFlag{Ff}{RadiosInUnison}{26}

```

“Table 8.77 Field flags specific to text fields”

```

3705 \HyField@NewFlag{Ff}{Multiline}{13}
3706 \HyField@NewFlag{Ff}{Password}{14}
3707 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
3708 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
3709 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
3710 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
3711 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5

```

“Table 8.79 field flags specific to choice fields”

```

3712 \HyField@NewFlag{Ff}{Combo}{18}
3713 \HyField@NewFlag{Ff}{Edit}{19}
3714 \HyField@NewFlag{Ff}{Sort}{20}
3715 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
3716 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
3717 \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.

```

3718 \newif\ifFld@popdown
3719 \define@key{Field}{popdown}[true]{%
3720   \lowercase{\Field@boolkey{#1}}{popdown}%
3721 }

```

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.

```

3722 \HyField@NewFlag{F}{Invisible}{1}

```

```

3723 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
3724 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
3725 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
3726 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
3727 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
3728 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
3729 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
3730 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7

3731 \ifHy@pdfa
3732   \def\HyField@PDFAFflagWarning#1#2{%
3733     \Hy@Warning{%
3734       PDF/A: Annotation flag ‘#1’ must\MessageBreak
3735       be set to ‘#2’%
3736     }%
3737   }%
3738   \Fld@invisiblefalse
3739   \def\Fld@invisibletrue{%
3740     \HyField@PDFAFflagWarning{invisible}{false}%
3741   }%
3742   \Fld@hiddenfalse
3743   \def\Fld@hiddentrue{%
3744     \HyField@PDFAFflagWarning{hidden}{false}%
3745   }%
3746   \Fld@printtrue
3747   \def\Fld@printfalse{%
3748     \HyField@PDFAFflagWarning{print}{true}%
3749   }%
3750   \Fld@nozoomtrue
3751   \def\Fld@nozoomfalse{%
3752     \HyField@PDFAFflagWarning{nozoom}{true}%
3753   }%
3754   \Fld@norotatetrue
3755   \def\Fld@norotatefalse{%
3756     \HyField@PDFAFflagWarning{norotate}{true}%
3757   }%
3758   \Fld@noviewfalse
3759   \def\Fld@noviewtrue{%
3760     \HyField@PDFAFflagWarning{noview}{false}%
3761   }%
3762 \fi

```

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

```

3763 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
3764 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
3765 \HyField@NewFlag{Submit}{GetMethod}{4}
3766 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
3767 \HyField@NewFlagOnly{Submit}{XFDF}{6}
3768 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
3769 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
3770 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
3771 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
3772 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
3773 \HyField@NewFlag{Submit}{ExclFKey}{12}
3774 \HyField@NewFlag{Submit}{EmbedForm}{14}

3775 \define@key{Field}{export}{%
3776   \lowercase{\def\Hy@temp{#1}}%
3777   \@ifundefined{Fld@export@\Hy@temp}{%

```

```

3778 \@onelevel@sanitize\Hy@temp
3779 \PackageError{hyperref}{%
3780   Unknown export format '\Hy@temp'.\MessageBreak
3781   Known formats are 'FDF', 'HTML', 'XFDF', and 'PDF'%
3782 }{\ehc
3783 }{%
3784 \let\Fld@export\Hy@temp
3785 }%
3786 }
3787 \def\Fld@export{fdf}
3788 \@namedef{Fld@export@fdf}{0}%
3789 \@namedef{Fld@export@html}{1}%
3790 \@namedef{Fld@export@xfdf}{2}%
3791 \@namedef{Fld@export@pdf}{3}%

```

19.1.2 Set submit flags

\HyField@FlagsSubmit

```

3792 \def\HyField@FlagsSubmit{%
3793   \bitsetReset{HyField@Submit}%
3794   \ifcase\@nameuse{Fld@export@Fld@export} %
3795     % FDF
3796     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
3797     \HyField@UseFlag{Submit}{SubmitCoordinates}%
3798     \HyField@UseFlag{Submit}{IncludeAppendSaves}%
3799     \HyField@UseFlag{Submit}{IncludeAnnotations}%
3800     \HyField@UseFlag{Submit}{CanonicalFormat}%
3801     \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
3802     \HyField@UseFlag{Submit}{ExclFKey}%
3803     \HyField@UseFlag{Submit}{EmbedForm}%
3804   \or % HTML
3805     \HyField@SetFlag{Submit}{ExportFormat}%
3806     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
3807     \HyField@UseFlag{Submit}{GetMethod}%
3808     \HyField@UseFlag{Submit}{SubmitCoordinates}%
3809     \HyField@UseFlag{Submit}{CanonicalFormat}%
3810   \or % XFDF
3811     \HyField@SetFlag{Submit}{XFDF}%
3812     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
3813     \HyField@UseFlag{Submit}{SubmitCoordinates}%
3814     \HyField@UseFlag{Submit}{CanonicalFormat}%
3815   \or % PDF
3816     \HyField@SetFlag{Submit}{SubmitPDF}%
3817     \HyField@UseFlag{Submit}{GetMethod}%
3818   \fi
3819   \HyField@PrintFlags{Submit}{submit button field}%
3820   \bitsetIsEmpty{HyField@Submit}{%
3821     \def\Fld@submitflags{%
3822     }{%
3823       \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}%
3824     }%
3825   }

```

19.1.3 Set annot flags in fields

\HyField@FlagsAnnot


```

3826 \def\HyField@FlagsAnnot#1{%
3827   \bitsetReset{HyField@F}%
3828   \HyField@UseFlag{F}{Invisible}%
3829   \HyField@UseFlag{F}{Hidden}%
3830   \HyField@UseFlag{F}{Print}%
3831   \HyField@UseFlag{F}{NoZoom}%
3832   \HyField@UseFlag{F}{NoRotate}%
3833   \HyField@UseFlag{F}{NoView}%
3834   \HyField@UseFlag{F}{Locked}%
3835   \HyField@UseFlag{F}{ToggleNoView}%
3836   \HyField@UseFlag{F}{LockedContents}%
3837   \HyField@PrintFlags{F}{#1}%
3838   \bitsetIsEmpty{HyField@F}{%
3839     \def\Fld@annotflags{%
3840     }{%
3841       \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}%
3842     }%
3843 }

```

19.1.4 Pushbutton field

\HyField@FlagsPushButton

```

3844 \def\HyField@FlagsPushButton{%
3845   \HyField@FlagsAnnot{push button field}%
3846   \bitsetReset{HyField@Ff}%
3847   \HyField@UseFlag{Ff}{ReadOnly}%
3848   \HyField@UseFlag{Ff}{Required}%
3849   \HyField@UseFlag{Ff}{NoExport}%
3850   \HyField@SetFlag{Ff}{PushButton}%
3851   \HyField@PrintFlags{Ff}{push button field}%
3852   \bitsetIsEmpty{HyField@Ff}{%
3853     \def\Fld@flags{%
3854     }{%
3855       \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
3856     }%
3857 }

```

19.1.5 Check box field

\HyField@FlagsCheckBox

```

3858 \def\HyField@FlagsCheckBox{%
3859   \HyField@FlagsAnnot{check box field}%
3860   \bitsetReset{HyField@Ff}%
3861   \HyField@UseFlag{Ff}{ReadOnly}%
3862   \HyField@UseFlag{Ff}{Required}%
3863   \HyField@UseFlag{Ff}{NoExport}%
3864   \HyField@PrintFlags{Ff}{check box field}%
3865   \bitsetIsEmpty{HyField@Ff}{%
3866     \def\Fld@flags{%
3867     }{%
3868       \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
3869     }%
3870 }

```

19.1.6 Radio button field

\HyField@FlagsRadioButton

```
3871 \def\HyField@FlagsRadioButton{%
3872   \HyField@FlagsAnnot{radio button field}%
3873   \bitsetReset{HyField@Ff}%
3874   \HyField@UseFlag{Ff}{ReadOnly}%
3875   \HyField@UseFlag{Ff}{Required}%
3876   \HyField@UseFlag{Ff}{NoExport}%
3877   \HyField@UseFlag{Ff}{NoToggleToOff}%
3878   \HyField@SetFlag{Ff}{Radio}%
3879   \HyField@UseFlag{Ff}{RadiosInUnison}%
3880   \HyField@PrintFlags{Ff}{radio button field}%
3881   \bitsetIsEmpty{HyField@Ff}{%
3882     \def\Fld@flags{%
3883     }{%
3884       \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
3885     }%
3886 }
```

19.1.7 Text fields

\HyField@FlagsText

```
3887 \def\HyField@FlagsText{%
3888   \HyField@FlagsAnnot{text field}%
3889   \bitsetReset{HyField@Ff}%
3890   \HyField@UseFlag{Ff}{ReadOnly}%
3891   \HyField@UseFlag{Ff}{Required}%
3892   \HyField@UseFlag{Ff}{NoExport}%
3893   \HyField@UseFlag{Ff}{Multiline}%
3894   \HyField@UseFlag{Ff}{Password}%
3895   \HyField@UseFlag{Ff}{FileSelect}%
3896   \HyField@UseFlag{Ff}{DoNotSpellCheck}%
3897   \HyField@UseFlag{Ff}{DoNotScroll}%
3898   \ifFld@comb
3899     \ifcase0\ifFld@multiline
3900       \else\ifFld@password
3901       \else\ifFld@fileselect
3902       \else 1\fi\fi\fi\relax
3903     \PackageError{hyperref}{%
3904       Field option ‘comb’ cannot be used together with\MessageBreak
3905       ‘multiline’, ‘password’, or ‘fileselect’%
3906     }\@ehc
3907   \else
3908     \HyField@UseFlag{Ff}{Comb}%
3909   \fi
3910 \fi
3911 \HyField@UseFlag{Ff}{RichText}%
3912 \HyField@PrintFlags{Ff}{text field}%
3913 \bitsetIsEmpty{HyField@Ff}{%
3914   \def\Fld@flags{%
3915   }{%
3916     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
3917   }%
3918 }
```

19.1.8 Choice fields

\HyField@FlagsChoice

```
3919 \def\HyField@FlagsChoice{%
3920   \HyField@FlagsAnnot{choice field}%
3921   \bitsetReset{HyField@Ff}%
3922   \HyField@UseFlag{Ff}{ReadOnly}%
3923   \HyField@UseFlag{Ff}{Required}%
3924   \HyField@UseFlag{Ff}{NoExport}%
3925   \HyField@UseFlag{Ff}{Combo}%
3926   \ifFld@combo
3927     \HyField@UseFlag{Ff}{Edit}%
3928   \fi
3929   \HyField@UseFlag{Ff}{Sort}%
3930   \HyField@UseFlag{Ff}{MultiSelect}%
3931   \ifFld@combo
3932     \ifFld@edit
3933       \HyField@UseFlag{Ff}{DoNotSpellCheck}%
3934     \fi
3935   \fi
3936   \HyField@UseFlag{Ff}{CommitOnSelChange}%
3937   \HyField@PrintFlags{Ff}{choice field}%
3938   \bitsetIsEmpty{HyField@Ff}{%
3939     \def\Fld@flags{%
3940     }{%
3941     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
3942     }%
3943 }
```

19.2 Choice field

3944 \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.

```
3945 \def\HyField@PDFChoices#1{%
3946   \begingroup
3947     \gdef\Fld@choices{%
3948     \def\HyTmp@optlist{%
3949       \let\HyTmp@optitem\relax
3950       \count@=0 %
3951       \kv@parse{#1}{%
3952         \Hy@pdfstringdef\kv@key\kv@key
3953         \ifx\kv@value\relax
3954           \ifnum\Hy@pdfversion<3 % implementation note 122, PDF spec 1.7
3955             \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@key)]}%
3956           \else
3957             \xdef\Fld@choices{\Fld@choices(\kv@key)}%
3958           \fi
3959         \else
3960           \Hy@pdfstringdef\kv@value\kv@value
3961           \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@value)]}%
3962         \fi
3963       \edef\HyTmp@optlist{%
3964         \HyTmp@optlist
3965         \HyTmp@optitem{\the\count@}{\kv@key}0%
```

```

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

```

\HyField@@PDFChoices

```

3988 \def\HyField@@PDFChoices#1#2{%
3989   \ifx#2\relax
3990   \else
3991     \count@=0 %
3992     \def\HyTmp@optitem##1##2##3{%
3993       \def\HyTmp@key{##2}%
3994       \ifx\HyTmp@key\Hy@gtmp
3995         \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
3996           \HyTmp@optlist
3997           \HyTmp@optitem{##1}{##2}1%
3998         }%
3999         \let\HyTmp@found=Y%
4000       \else
4001         \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
4002           \HyTmp@optlist
4003           \HyTmp@optitem{##1}{##2}##3%
4004         }%
4005       \fi
4006     }%
4007     \expandafter\comma@parse\expandafter{#2}{%
4008       \pdfstringdef\Hy@gtmp\comma@entry
4009       \let\HyTmp@found=N %
4010       \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
4011       \HyTmp@optlist
4012       \ifx\HyTmp@found Y%
4013         \advance\count@ by 1 %
4014       \else
4015         \@onelevel@sanitize\comma@entry
4016         \PackageWarning{hyperref}{%
4017           \string\ChoiceBox: Ignoring value ‘\comma@entry’,%
4018           \MessageBreak
4019           it cannot be found in the choices%
4020         }%

```

```

4021     \fi
4022     \@gobble
4023 }%
4024 \def\HyTmp@optitem##1##2##3{%
4025     \ifnum##3=1 %
4026         (##2)%
4027     \fi
4028 }%
4029 \ifcase\count@
4030 \or
4031     \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
4032 \else
4033     \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]]}%
4034     \ifx#1V%
4035         \def\HyTmp@optitem##1##2##3{%
4036             \ifnum##3=1 %
4037                 \@firstofone{ ##1}%
4038             \fi
4039         }%
4040     \edef\HyTmp@optlist{\HyTmp@optlist}%
4041     \xdef\Fld@choices{%
4042         \Fld@choices
4043         /I[\expandafter\@firstofone\HyTmp@optlist]]%
4044     }%
4045     \fi
4046 \fi
4047 \fi
4048 }

```

19.3 Forms

\HyField@SetKeys

```

4049 \def\HyField@SetKeys{%
4050     \setkeys{Field}%
4051 }

4052 \newif\ifFld@checked
4053 \newif\ifFld@disabled
4054 \Fld@checkedfalse
4055 \Fld@disabledfalse
4056 \newcount\Fld@menulength
4057 \newdimen\Fld@Width
4058 \newdimen\Fld@charsize
4059 \Fld@charsize=10\p@
4060 \def\Fld@maxlen{0}
4061 \def\Fld@align{0}
4062 \def\Fld@color{0 0 0 rg}
4063 \def\Fld@bcolor{1 1 1}
4064 \def\Fld@bordercolor{1 0 0}
4065 \def\Fld@bordersep{1\p@}
4066 \def\Fld@borderwidth{1}
4067 \def\Fld@borderstyle{S}
4068 \def\Fld@cbsymbol{4}
4069 \def\Fld@rotation{0}
4070 \def\Form{\@ifnextchar [{\@Form}{\@Form[]}}
4071 \def\endForm{\@endForm}
4072 \newif\ifForm@html

```

```

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

```

```

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

```

```

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

4189 \define@key{Field}{backgroundcolor}{%
4190 \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
4191 }
4192 \define@key{Field}{bordercolor}{%
4193 \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
4194 }
4195 \define@key{Field}{color}{%
4196 \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
4197 }

4198 \def\Fld@format@code{}
4199 \def\Fld@validate@code{}
4200 \def\Fld@calculate@code{}
4201 \def\Fld@keystroke@code{}
4202 \def\Fld@onfocus@code{}
4203 \def\Fld@onblur@code{}
4204 \def\Fld@onmousedown@code{}
4205 \def\Fld@onmouseup@code{}
4206 \def\Fld@onenter@code{}
4207 \def\Fld@onexit@code{}
4208 \def\Hy@temp#1{%
4209 \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
4210 }
4211 \def\Hy@@temp#1#2{%
4212 \ifHy@pdfa
4213 \define@key{Field}{#2}{%
4214 \PackageError{hyperref}{%
4215 PDF/A: Additional action ‘#2’ is prohibited%
4216 }\@ehc
4217 }%
4218 \else
4219 \define@key{Field}{#2}{%
4220 \def#1{##1}%
4221 }%
4222 \fi
4223 }
4224 \Hy@temp{keystroke}
4225 \Hy@temp{format}
4226 \Hy@temp{validate}
4227 \Hy@temp{calculate}
4228 \Hy@temp{onfocus}
4229 \Hy@temp{onblur}
4230 \Hy@temp{onenter}
4231 \Hy@temp{onexit}
4232 \def\Hy@temp#1{%
4233 \define@key{Field}{#1}{%
4234 \Field@addtoks{#1}{##1}%
4235 }%
4236 }
4237 \Hy@temp{onselect}
4238 \Hy@temp{onchange}
4239 \Hy@temp{ondblclick}
4240 \Hy@temp{onmousedown}
4241 \Hy@temp{onmouseup}
4242 \Hy@temp{onmouseover}
4243 \Hy@temp{onmousemove}

```



```

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

4260 \DeclareRobustCommand\TextField{%
4261   \@ifnextchar[{\@TextField}{\@TextField[]}%
4262 }
4263 \DeclareRobustCommand\ChoiceMenu{%
4264   \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
4265 }
4266 \DeclareRobustCommand\CheckBox{%
4267   \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
4268 }
4269 \DeclareRobustCommand\PushButton{%
4270   \@ifnextchar[{\@PushButton}{\@PushButton[]}%
4271 }
4272 \DeclareRobustCommand\Gauge{%
4273   \@ifnextchar[{\@Gauge}{\@Gauge[]}%
4274 }
4275 \DeclareRobustCommand\Submit{%
4276   \@ifnextchar[{\@Submit}{\@Submit[]}%
4277 }
4278 \DeclareRobustCommand\Reset{%
4279   \@ifnextchar[{\@Reset}{\@Reset[]}%
4280 }
4281 \def\LayoutTextField#1#2{% label, field
4282   #1 #2%
4283 }
4284 \def\LayoutChoiceField#1#2{% label, field
4285   #1 #2%
4286 }
4287 \def\LayoutCheckField#1#2{% label, field
4288   #1 #2%
4289 }
4290 \def\LayoutPushButtonField#1{% button
4291   #1%
4292 }
4293 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4294 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4295 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4296 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4297 \def\MakeButtonField#1{%
4298   \sbox0{%
4299     \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
4300   }%

```

```

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

```

Default options for the types of \ChoiceMenu.

```

4327 \def\DefaultOptionsofListBox{print}
4328 \def\DefaultOptionsofComboBox{print,edit,sort}
4329 \def\DefaultOptionsofPopdownBox{print}
4330 \def\DefaultOptionsofRadio{print,notoggletooff}

```

20 Setup

```

4331 \ifHy@figures
4332 \Hy@Info{Hyper figures ON}%
4333 \else
4334 \Hy@Info{Hyper figures OFF}%
4335 \fi
4336 \ifHy@nesting
4337 \Hy@Info{Link nesting ON}%
4338 \else
4339 \Hy@Info{Link nesting OFF}%
4340 \fi
4341 \ifHy@hyperindex
4342 \Hy@Info{Hyper index ON}%
4343 \else
4344 \Hy@Info{Hyper index OFF}%
4345 \fi
4346 \ifHy@backref
4347 \Hy@Info{backreferencing ON}%
4348 \else
4349 \Hy@Info{backreferencing OFF}%
4350 \fi
4351 \ifHy@colorlinks
4352 \Hy@Info{Link coloring ON}%

```

```

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

```

21 Low-level utility macros

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

```

4366 \edef\hyper@hash{\string#}
4367 \edef\hyper@tilde{\string~}
4368 \edef\hyper@quote{\string"}
4369 \let\@currentHref\@empty
4370 \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.

```

4371 \AfterBeginDocument{%
4372   \Hy@pdfstringtrue
4373   \PDF@SetupDoc
4374   \let\PDF@SetupDoc\@empty
4375   \Hy@DisableOption{pdfpagescrop}%
4376   \Hy@DisableOption{pdfpagemode}%
4377   \Hy@DisableOption{pdfnonfullscreenpagemode}%
4378   \Hy@DisableOption{pdfdirection}%
4379   \Hy@DisableOption{pdfviewarea}%
4380   \Hy@DisableOption{pdfviewclip}%
4381   \Hy@DisableOption{pdfprintarea}%
4382   \Hy@DisableOption{pdfprintclip}%
4383   \Hy@DisableOption{pdfprintscaling}%
4384   \Hy@DisableOption{pdfduplex}%
4385   \Hy@DisableOption{pdfpicktraybypdfsize}%
4386   \Hy@DisableOption{pdfprintpagerange}%
4387   \Hy@DisableOption{pdfnumcopies}%
4388   \Hy@DisableOption{pdfstartview}%
4389   \Hy@DisableOption{pdfstartpage}%
4390   \Hy@DisableOption{pdftoolbar}%
4391   \Hy@DisableOption{pdfmenubar}%
4392   \Hy@DisableOption{pdfwindowui}%
4393   \Hy@DisableOption{pdfwindow}%
4394   \Hy@DisableOption{pdfcenterwindow}%
4395   \Hy@DisableOption{pdfdisplaydoctitle}%
4396   \Hy@DisableOption{pdfpagelayout}%
4397   \Hy@DisableOption{pdflang}%
4398   \Hy@DisableOption{baseurl}%
4399   \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
4400   \Hy@pdfstringfalse
4401 }

```

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 hyperref functions doing anything. This is used, for instance, in the Elsevier classes, to stop hyperref playing havoc in the front matter.

```
4402 \def\NoHyper{%
4403   \def\hyper@link@{##1}##2##3##4{##4}%
4404   \def\hyper@@anchor##1{%
4405     \global\let\hyper@livelink\hyper@link
4406     \gdef\hyper@link##1##2##3{##3}%
4407     \def\hyper@anchorstart##1{%
4408       \let\hyper@anchorend\@empty
4409       \def\hyper@linkstart##1##2{%
4410         \let\hyper@linkend\@empty
4411         \def\hyper@linkurl##1##2{##1}%
4412         \def\hyper@linkfile##1##2##3{##1}%
4413         \def\hyper@link@{##1}##2##3{%
4414           \let\Hy@backout\@gobble
4415       }
4416 \def\stop@hyper{%
4417   \def\hyper@link@{##1}##2##3##4{##4}%
4418   \let\Hy@backout\@gobble
4419   \def\hyper@@anchor##1{%
4420     \def\hyper@link##1##2##3{##3}%
4421     \def\hyper@anchorstart##1{%
4422       \let\hyper@anchorend\@empty
4423       \def\hyper@linkstart##1##2{%
4424         \let\hyper@linkend\@empty
4425         \def\hyper@linkurl##1##2{##1}%
4426         \def\hyper@linkfile##1##2##3{##1}%
4427         \def\hyper@link@{##1}##2##3{%
4428       }
4429 \def\endNoHyper{%
4430   \global\let\hyper@link\hyper@livelink
4431 }
4432 \}
```

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:

```
4433 \def\*nohyperref{
4434   \let\hyper@@anchor\@gobble
4435   \def\hyper@link#1#2#3{#3}%
4436   \let\hyper@anchorstart\@gobble
4437   \let\hyper@anchorend\@empty
4438   \let\hyper@linkstart\@gobbletwo
4439   \let\hyper@linkend\@empty
4440   \def\hyper@linkurl#1#2{#1}%
4441   \def\hyper@linkfile#1#2#3{#1}%
4442 }
```

```

4442 \def\hyper@link@[#1]#2#3{%
4443 \let\PDF@SetupDoc\@empty
4444 \let\PDF@FinishDoc\@empty

```

Some top-level commands:

```

4445 \def\Acrobatmenu#1#2{\leavevmode#2}
4446 \let\pdfstringdefDisableCommands\@gobbletwo
4447 \let\texorpdfstring\@firstoftwo
4448 \let\pdfbookmark\@undefined
4449 \newcommand\pdfbookmark[3][]{\{}
4450 \let\phantomsection\@empty
4451 \let\hypersetup\@gobble
4452 \let\hyperbaseurl\@gobble
4453 \let\href\@gobble
4454 \let\hyperdef\@gobbletwo
4455 \let\hyperlink\@gobble
4456 \let\hypertarget\@gobble
4457 \def\hyperref{%
4458 \@ifnextchar[\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
4459 }
4460 \long\def\@gobbleopt[#1]{\{}
4461 \let\hyperpage\@empty
4462 \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}`

```

4463 \*package
4464 \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.

```

4465 \if@filesw
4466 \ifHy@typexml
4467 \immediate\closeout\@mainaux
4468 \immediate\openout\@mainaux\jobname.aux\relax
4469 \immediate\write\@auxout{<relaxxml>\relax}%
4470 \fi
4471 \immediate\write\@auxout{%
4472 \string\ifx\string\hyper@anchor\string\@undefined^^J%
4473 \global\let\string\oldcontentsline\string\contentsline^^J%
4474 \gdef\string\contentsline%
4475 \string#1\string#2\string#3\string#4{%
4476 \string\oldcontentsline%
4477 {\string#1}{\string#2}{\string#3}}^^J%
4478 \global\let\string\oldnewlabel\string\newlabel^^J%
4479 \gdef\string\newlabel\string#1\string#2{%
4480 \string\newlabelxx{\string#1}\string#2^^J%
4481 \gdef\string\newlabelxx%
4482 \string#1\string#2\string#3\string#4\string#5\string#6{%
4483 \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.

```
4484      \string\AtEndDocument{%
4485      \let\string\contentsline\string\oldcontentsline^^J%
4486      \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.

```
4487      \string\else^^J%
4488      \global\let\string\hyper@last\relax^^J%
4489      \string\fi^^J%
4490  }%
4491  \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.

```
4492  \ifx\hyper@last\@undefined
4493    \def\@starttoc#1{%
4494      \begingroup
4495      \makeatletter
4496      \IfFileExists{\jobname.#1}{%
4497        \Hy@WarningNoLine{%
4498          old #1 file detected, not used; run LaTeX again%
4499        }%
4500      }{%}%
4501      \if@filesw
4502        \expandafter\newwrite\csname tf@#1\endcsname
4503        \immediate\openout\csname tf@#1\endcsname \jobname.#1\relax
4504      \fi
4505      \@nobreakfalse
4506    \endgroup
4507  }%
4508  \def\newlabel#1#2{\@newl@bel r{#1}{#2}{ }{}{}}}%
4509  \fi
4510 }
```

25 Title strings

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

```
4511 \ifHy@usetitle
4512   \let\HyOrg@title\title
4513   \let\HyOrg@author\author
4514   \def\title{\@ifnextchar[{\Hy@scanopttitle}{\Hy@scantitle}}%
4515   \def\Hy@scanopttitle[#1]{%
4516     \gdef\Hy@title{#1}%
4517     \HyOrg@title[#1]%
4518   }%
4519   \def\Hy@scantitle#1{%
4520     \gdef\Hy@title{#1}%
4521     \HyOrg@title{#1}%
4522   }%
4523   \def\author{\@ifnextchar[{\Hy@scanoptauthor}{\Hy@scanauthor}}%
```

```

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

```

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.

```

4532 \begingroup
4533   \def\process@me#1\@nil#2{%
4534     \expandafter\let\expandafter\x\csname @#2\endcsname
4535     \edef\y{\expandafter\strip@prefix\meaning\x}%
4536     \def\c##1##2\@nil{%
4537       \ifx\\##1\\%
4538       \else
4539         \expandafter\gdef\csname Hy@#2\expandafter\endcsname
4540           \expandafter{\x}%
4541       \fi
4542     }%
4543     \expandafter\c\y\relax#1\@nil
4544   }%
4545   \expandafter\process@me\string\@latex@\@nil{title}%
4546   \expandafter\process@me\string\@latex@\@nil{author}%
4547 \endgroup
4548 \fi
4549 \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.

```

4550 \def\Hy@UseMaketitleString#1{%
4551   \@ifundefined{Hy@#1}{}{%
4552     \begingroup
4553       \let\Hy@saved@hook\pdfstringdefPreHook
4554       \pdfstringdefDisableCommands{%
4555         \expandafter\let\expandafter\\\csname Hy@newline@#1\endcsname
4556         \let\newline\\%
4557       }%
4558       \expandafter\ifx\csname @pdf#1\endcsname\@empty
4559         \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
4560           \csname Hy@#1\endcsname\@empty
4561         }%
4562       \fi
4563       \global\let\pdfstringdefPreHook\Hy@saved@hook
4564     \endgroup
4565   }%
4566 }
4567 \def\Hy@newline@title#1{ #1}

```

```

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

```

26 Page numbers

This stuff is done by Heiko Oberdiek.

27 Every page

```

4573 \RequirePackage{atbegshi}[2007/09/09]
4574 \def\Hy@EveryPageHook{}
4575 \def\Hy@EveryPageBoxHook{}
4576 \def\Hy@FirstPageHook{}
4577 \AtBeginShipout{%
4578   \Hy@EveryPageHook
4579   \ifx\Hy@EveryPageBoxHook\@empty
4580   \else
4581     \setbox\AtBeginShipoutBox=\vbox{%
4582       \offinterlineskip
4583       \Hy@EveryPageBoxHook
4584       \box\AtBeginShipoutBox
4585     }%
4586   \fi
4587 }
4588 \AtBeginShipoutFirst{%
4589   \Hy@FirstPageHook
4590 }
4591 \g@addto@macro\Hy@FirstPageHook{%
4592   \PDF@FinishDoc
4593   \gdef\PDF@FinishDoc{}}%
4594 }

```

27.1 PDF /PageLabels

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

```

4595 \ifHy@pagelabels
4596   \begingroup\expandafter\expandafter\expandafter\endgroup
4597   \expandafter\ifx\csname thepage\endcsname\relax
4598     \Hy@pagelabelsfalse
4599     \Hy@WarningNoLine{%
4600       Option 'pdfpagelabels' is turned off\MessageBreak
4601       because \string\thepage\space is undefined%
4602     }%
4603     \csname fi\endcsname
4604     \csname iffalse\expandafter\endcsname
4605   \fi

```

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

```

4606 \def\thispdfpagelabel#1{%
4607   \gdef\HyPL@thisLabel{#1}%
4608 }%
4609 \global\let\HyPL@thisLabel\relax

```


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

```
4610 \def\HyPL@Labels{}
```

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

```
4611 \newcount\Hy@abspage
```

```
4612 \Hy@abspage=0 %
```

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

```
4613 \def\HyPL@LastType{init}%
```

```
4614 \def\HyPL@LastNumber{0}%
```

```
4615 \def\HyPL@LastPrefix{}
```

Definitions for the PDF names of the \LaTeX pendants.

```
4616 \def\HyPL@arabic{D}%
```

```
4617 \def\HyPL@Roman{R}%
```

```
4618 \def\HyPL@roman{r}%
```

```
4619 \def\HyPL@Alph{A}%
```

```
4620 \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.

```
4621 \def\HyPL@EveryPage{%
4622   \begingroup
4623   \ifx\HyPL@thisLabel\relax
4624     \let\HyPL@page\thepage
4625   \else
4626     \let\HyPL@page\HyPL@thisLabel
4627     \global\let\HyPL@thisLabel\relax
4628   \fi
4629   \let\HyPL@Type\relax
4630   \ifnum\the\c@page>0 %
4631     \expandafter\HyPL@CheckThePage\HyPL@page\@nil
4632   \fi
4633   \let\Hy@temp Y%
4634   \ifx\HyPL@Type\HyPL@LastType
4635   \else
4636     \let\Hy@temp N%
4637   \fi
4638   \ifx\HyPL@Type\relax
4639     \pdfstringdef\HyPL@Prefix{\HyPL@page}%
4640   \else
4641     \pdfstringdef\HyPL@Prefix\HyPL@Prefix
4642   \fi
4643   \ifx\HyPL@Prefix\HyPL@LastPrefix
4644   \else
4645     \let\Hy@temp N%
4646   \fi
4647   \if Y\Hy@temp
4648     \advance\c@page by -1 %
4649     \ifnum\HyPL@LastNumber=\the\c@page\relax
4650     \else
4651       \let\Hy@temp N%
4652     \fi
4653     \Hy@StepCount\c@page
4654   \fi
4655   \if N\Hy@temp
4656     \ifx\HyPL@Type\relax
```

```

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

```

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

```

4678 \def\HyPL@CheckThePage#1\@nil{%
4679     \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
4680 }%

```

`\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 implementation 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`.

```

4681 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
4682     \def\Hy@tempa{#4}%
4683     \def\Hy@tempb{\csname\endcsname\c@page}%
4684     \ifx\Hy@tempa\Hy@tempb
4685         \expandafter\ifx\csname HyPL#3\endcsname\relax
4686     \else
4687         \def\HyPL@Type{#3}%
4688         \def\HyPL@Prefix{#2}%
4689     \fi
4690 \else
4691     \begingroup
4692     \let\Hy@next\endgroup
4693     \let\HyPL@found\@undefined
4694     \def\arabic{\HyPL@Format{arabic}}%
4695     \def\Roman{\HyPL@Format{Roman}}%
4696     \def\roman{\HyPL@Format{roman}}%
4697     \def\Alph{\HyPL@Format{Alph}}%
4698     \def\alph{\HyPL@Format{alph}}%
4699     \protected@edef\Hy@temp{#1}%
4700     \ifx\HyPL@found\relax
4701         \toks@{\expandafter{\Hy@temp}}%
4702         \edef\Hy@next{\endgroup
4703             \noexpand\HyPL@@@CheckThePage\the\toks@
4704             \noexpand\HyPL@found\relax\noexpand\@nil
4705         }%
4706     \fi

```

```

4707     \Hy@next
4708     \fi
4709 }%

```

\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`.

```

4710 \def\HyPL@Format#1#2{%
4711     \ifx\HyPL@found\@undefined
4712         \expandafter\ifx\csname c@#2\endcsname\c@page
4713             \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
4714         \else
4715             \expandafter\noexpand\csname#1\endcsname{#2}%
4716         \fi
4717     \else
4718         \expandafter\noexpand\csname#1\endcsname{#2}%
4719     \fi
4720 }%

```

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

```

4721 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
4722     \def\Hy@tempa{#3}%
4723     \def\Hy@tempb{\HyPL@found\relax}%
4724     \ifx\Hy@tempa\Hy@tempb
4725         \def\HyPL@Type{#2}%
4726         \def\HyPL@Prefix{#1}%
4727     \fi
4728 }%

```

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

```

4729 \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`.

```

4730 \def\HyPL@Useless{0<</S/D>>}%
4731 \@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.

```

4732 \def\HyPL@SetPageLabels{%
4733     \@onelevel@sanitize\HyPL@Labels
4734     \ifx\HyPL@Labels\@empty
4735     \else
4736         \ifx\HyPL@Labels\HyPL@Useless
4737         \else
4738             \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
4739         \fi
4740     \fi
4741 }%

```

```

4742 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
4743 \fi

```

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

```

4744 \Hy@DisableOption{pdfpagelabels}
4745 </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`

```
4746 <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.

```
4747 <*vTeX>
4748 \edef\Hy@VTeXversion{%
4749   \ifx\VTeXversion\undefined
4750     \z@
4751   \else
4752     \ifx\VTeXversion\relax
4753       \z@
4754     \else
4755       \VTeXversion
4756     \fi
4757   \fi
4758 }
4759 \begingroup
4760   \ifnum\Hy@VTeXversion<660 %
4761     \gdef\Hy@PutCatalog#1{%
4762       \Hy@WarningNoLine{%
4763         VTeX 6.59g or above required for pdfpagelabels%
4764       }%
4765     }%
4766   \else
4767     \gdef\Hy@PutCatalog#1{%
4768       \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
4769     }%
4770     \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
4771       \ifx\#2\%
4772         \else
4773           \immediate\special{!pdfpagelabels #2}%
4774         \fi
4775       }%
4776     \fi
4777 \endgroup
4778 </vTeX>

4779 <*pdfTeX | vTeX>
```

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

```
4780 \ifHy@pagelabels
4781   \def\HyPL@StorePageLabel#1{%
4782     \toks@\expandafter{\HyPL@Labels}%
4783     \xdef\HyPL@Labels{%
4784       \the\toks@
4785       \the\Hy@abspage<<#1>>%
4786     }%
4787   }%
```

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.

```

4788 \ifclassloaded{revtex4}{%
4789   \g@addto@macro\clear@document{\HyPL@SetPageLabels}%
4790 }{%
4791   \AtEndDocument{\clearpage\HyPL@SetPageLabels}%
4792 }%

4793 \fi
4794 </pdfTeX | vTeX>

```

27.1.2 pdfmarkbase, dvipdfm

```

4795 <*pdfmarkbase>
4796 \begingroup
4797   \toks@{\expandafter{\Hy@FirstPageHook}%
4798   \xdef\Hy@FirstPageHook{%
4799     \noexpand\headerps@out{%
4800       systemdict /pdfmark known%
4801       {%
4802         userdict /?pdfmark systemdict /exec get put%
4803       }{%
4804         userdict /?pdfmark systemdict /pop get put %
4805         userdict /pdfmark systemdict /cleartomark get put%
4806       }%
4807       ifelse%
4808     }%
4809     \the\toks@
4810   }%
4811 \endgroup
4812 </pdfmarkbase>

\Hy@PutCatalog
4813 <dvipdfm>\def\Hy@PutCatalog#1{\@pdfm@mark{docview << #1 >>}}
4814 <*pdfmarkbase>
4815 \def\Hy@PutCatalog#1{%
4816   \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} << #1 >>}}%
4817 }
4818 </pdfmarkbase>

4819 <*pdfmarkbase | dvipdfm>
4820 \ifHy@pagelabels

```

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

```

4821 \def\HyPL@StorePageLabel#1{%
4822   \if@filesW
4823     \begingroup
4824       \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
4825       \immediate\write\@mainaux{%
4826         \string\HyPL@Entry{\Hy@tempa}%
4827       }%
4828     \endgroup
4829   \fi
4830 }%

```

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.

```

4831 \AfterBeginDocument{%
4832   \if@files
4833     \immediate\write\@mainaux{%
4834       \string\providecommand\string*\string\HyPL@Entry[1]{}%
4835     }%
4836   \fi
4837   \ifx\HyPL@Labels\@empty
4838     \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
4839   \else
4840     \HyPL@SetPageLabels
4841   \fi
4842   \let\HyPL@Entry\@gobble
4843 }%

\HyPL@Entry
4844 \def\HyPL@Entry#1{%
4845   \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
4846     \HyPL@Labels
4847     #1%
4848   }%
4849 }%

4850 \fi
4851 </pdfmarkbase | dvipdfm>
4852 <*package>
4853 \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 its 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

```

4854 \def\Hy@CounterExists#1{%
4855   \begingroup\expandafter\expandafter\expandafter\endgroup
4856   \expandafter\ifx\csname c@#1\endcsname\relax
4857     \expandafter\@gobble
4858   \else
4859     \begingroup\expandafter\expandafter\expandafter\endgroup
4860     \expandafter\ifx\csname the#1\endcsname\relax
4861       \expandafter\expandafter\expandafter\@gobble
4862     \else

```

```

4863 \expandafter\expandafter\expandafter\@firstofone
4864 \fi
4865 \fi
4866 }
4867 \Hy@CounterExists{section}{%
4868 \newcommand\theHequation{\theHsection.\arabic{equation}}%
4869 }
4870 \Hy@CounterExists{part}{%
4871 \newcommand\theHpart{\arabic{part}}%
4872 }
4873 \ifundefined{thechapter}{%
4874 \newcommand\theHsection {\arabic{section}}%
4875 \newcommand\theHfigure {\arabic{figure}}%
4876 \newcommand\theHtable {\arabic{table}}%
4877 }{%
4878 \newcommand\theHchapter {\arabic{chapter}}%
4879 \newcommand\theHfigure {\theHchapter.\arabic{figure}}%
4880 \newcommand\theHtable {\theHchapter.\arabic{table}}%
4881 \newcommand\theHsection {\theHchapter.\arabic{section}}%
4882 }
4883 \newcommand\theHsubsection {\theHsection.\arabic{subsection}}
4884 \newcommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
4885 \newcommand\theHparagraph {\theHsubsubsection.\arabic{paragraph}}
4886 \newcommand\theHsubparagraph {\theHparagraph.\arabic{subparagraph}}
4887 \newcommand\theHtheorem {\theHsection.\arabic{theorem}}
4888 \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.

```

4889 \let\H@item\item
4890 \newcounter{Item}
4891 \def\theHItem{\arabic{Item}}
4892 \def\item{%
4893 \@hyper@itemfalse
4894 \if@nmbrlist\@hyper@itemtrue\fi
4895 \H@item
4896 }
4897 \newcommand\theHenumi {\theHItem}
4898 \newcommand\theHenumii {\theHItem}
4899 \newcommand\theHenumiii {\theHItem}
4900 \newcommand\theHenumiv {\theHItem}
4901 \newcommand\theHHfootnote {\arabic{Hfootnote}}
4902 \newcommand\theHmpfootnote{\arabic{mpfootnote}}
4903 \let\theHmpfootnote\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.

```

4904 \let\H@refstepcounter\refstepcounter
4905 \edef\name@of@eq{equation}%
4906 \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.

```

4907 \newif\if@hyper@item
4908 \newif\if@skiphyperref

```

```

4909 \@hyper@itemfalse
4910 \@skiphyperreffalse
4911 \def\refstepcounter#1{%
4912   \ifHy@pdfstring
4913   \else
4914     \H@refstepcounter{#1}%
4915     \edef\This@name{#1}%
4916     \ifx\This@name\name@of@slide
4917     \else
4918       \if@skiphyperref
4919       \else
4920         \if@hyper@item
4921         \stepcounter{Item}%
4922         \hyper@refstepcounter{Item}%
4923         \@hyper@itemfalse
4924       \else
4925         \hyper@refstepcounter{#1}%
4926       \fi
4927     \fi
4928   \fi
4929 \fi
4930 }

```

AMS¹TeX 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.

```

4931 \@ifpackageloaded{amsmath}{\newif\ifmeasuring@measuring@false}

```

`\hyper@refstepcounter`

```

4932 \def\hyper@refstepcounter#1{%
4933   \edef\This@name{#1}%
4934   \ifx\This@name\name@of@eq
4935     \@ifundefined{theHequation}{%
4936       \make@stripped@name{\theequation}%
4937       \let\theHequation\newname
4938     }{}%
4939   \fi
4940   \@ifundefined{theH#1}{%
4941     \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
4942   }{}%
4943   \hyper@makecurrent{#1}%
4944   \ifmeasuring@
4945   \else
4946     \Hy@raisedlink{%
4947       \hyper@anchorstart{\@currentHref}\hyper@anchorend
4948     }%
4949   \fi
4950 }

```

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`.

```

4951 \begingroup\expandafter\expandafter\expandafter\endgroup
4952 \expandafter\ifx\csname chapter\endcsname\relax

```



```

4953 \def\Hy@chapterstring{section}%
4954 \else
4955 \def\Hy@chapterstring{chapter}%
4956 \fi
4957 \def\Hy@appendixstring{appendix}
4958 \def\Hy@chapapp{\Hy@chapterstring}
4959 \let\HyOrg@appendix\appendix
4960 \def\appendix{%
4961 \ifundefined{chapter}%
4962 {\gdef\theHsection{\Alph{section}}}%
4963 {\gdef\theHchapter{\Alph{chapter}}}%
4964 \xdef\Hy@chapapp{\Hy@appendixstring}%
4965 \HyOrg@appendix
4966 }

```

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

```

4967 \def\hyper@makecurrent#1{%
4968 \begingroup
4969 \edef\Hy@param{#1}%
4970 \ifx\Hy@param\Hy@chapterstring
4971 \let\Hy@param\Hy@chapapp
4972 \fi
4973 \ifHy@hypertextnames
4974 \let\@number\@firstofone
4975 \ifundefined{latin@Alph}{-}{%
4976 \ifx\@Alph\greek@Alph
4977 \def\@Alph{Alph\@arabic}%
4978 \fi
4979 }%
4980 \ifx\@Alph\@Alph@bul
4981 \def\@Alph{Alph\@arabic}%
4982 \fi
4983 \ifx\@alph\@alph@bul
4984 \def\@alph{alph\@arabic}%
4985 \fi
4986 \ifHy@naturalnames
4987 \let\textlatin\@firstofone
4988 \xdef\@currentHlabel{\csname the#1\endcsname}%
4989 \else
4990 \xdef\@currentHlabel{\csname theH#1\endcsname}%
4991 \fi
4992 \xdef\@currentHref{%
4993 \Hy@param.\expandafter\strip@prefix\meaning\@currentHlabel
4994 }%
4995 \else
4996 \Hy@GlobalStepCount\Hy@linkcounter
4997 \xdef\@currentHref{\Hy@param.the\Hy@linkcounter}%
4998 \fi
4999 \endgroup
5000 }

5001 \ifpackageloaded{fancyvrb}{%
5002 \def\FV@StepLineNo{%
5003 \FV@SetLineNo
5004 \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
5005 \FV@StepLineNo
5006 }%

```

5007 }{}

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`

```

5008 \AtBeginDocument{%
5009   \@ifclassloaded{revtex4}{%
5010     \@namedef{ver@lastpage.sty}{1994/06/25}%
5011   }{}%
5012   \@ifpackageloaded{lastpage}{%
5013     \ifHy@pageanchor
5014     \else
5015       \Hy@WarningNoLine{%
5016         The \string\pageref{LastPage} link doesn't work\MessageBreak
5017         with disabled option 'pageanchor'%
5018       }%
5019     \fi
5020     \def\lastpage@putlabel{%
5021       \addtocounter{page}{-1}%
5022       \if@filesw
5023         \begingroup
5024           \let\@number\@firstofone
5025           \ifHy@pageanchor
5026             \ifHy@hypertexnames
5027               \ifHy@plainpages
5028                 \def\Hy@temp{\arabic{page}}%
5029               \else
5030                 \Hy@unicodedefalse
5031                 \pdfstringdef\Hy@temp{\thepage}%
5032               \fi
5033             \else
5034               \def\Hy@temp{\the\Hy@pagecounter}%
5035             \fi
5036           \fi
5037           \immediate\write\@auxout{%
5038             \string\newlabel
5039             {LastPage}{}{\thepage}{}{%
5040               \ifHy@pageanchor page.\Hy@temp\fi}{}%
5041             }%
5042           \endgroup
5043         \fi
5044       \addtocounter{page}{1}%
5045     }%
5046     \@ifclassloaded{revtex4}{%
5047       \begingroup
5048         \toks@{\expandafter{\lastpage@putlabel}}%
5049         \edef\x{\endgroup
5050           \def\noexpand\lastpage@putlabel{%
5051             \noexpand\stepcounter{page}%

```

```

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

```

5072 \def\hypergetref#1{\getrefbykeydefault{#1}{{}}{??}}
5073 \def\hypergetpageref#1{\getrefbykeydefault{#1}{page}{0}}

```

31 Package titlesec and titletoc support

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

Package titlesec support:

```

5074 \@ifpackageloaded{titlesec}{%
5075     \def\ttl@Hy@steplink#1{%
5076         \Hy@GlobalStepCount\Hy@linkcounter
5077         \xdef\@currentHref{#1*.\the\Hy@linkcounter}%
5078         \def\ttl@Hy@saveanchor{%
5079             \Hy@raisedlink{%
5080                 \hyper@anchorstart{\@currentHref}\hyper@anchorend
5081             }%
5082         }%
5083     }%
5084     \def\ttl@Hy@refstepcounter#1{%
5085         \let\ttl@b\Hy@raisedlink
5086         \def\Hy@raisedlink##1{%
5087             \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
5088         }%
5089         \refstepcounter{#1}%
5090         \let\Hy@raisedlink\ttl@b
5091     }%
5092 }{}

```

Package titletoc support:

```

5093 \@ifpackageloaded{titletoc}{%

```

```

5094 \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
5095 }{}

```

32 Package varioref support

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

```

5096 \def\Hy@varioref@undefined{{??}{??}{}}{}{}
5097 \@ifpackageloaded{varioref}{%
5098   \def\vref@pagenum#1#2{%
5099     \ifundefined{r@#2}{%
5100       \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
5101     }{}%
5102     \edef#1{\getpagerefnumber{#2}}%
5103   }%
5104 }{}

```

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

```

5105 \@ifpackageloaded{longtable}{%
5106   \begin{group}
5107     \def\y{\LT@array}%
5108     \@ifundefined{scr@LT@array}{}{\def\y{\scr@LT@array}}%
5109     \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
5110       \expandafter\endgroup
5111       \expandafter\def\y[#1]##2{%
5112         \H@refstepcounter{#1}%
5113         \hyper@makecurrent{table}%
5114         \let\Hy@LT@currentHlabel\@currentHlabel
5115         \let\Hy@LT@currentHref\@currentHref
5116         #2\@sharp####4%
5117       }%
5118     }%
5119     \expandafter\expandafter\expandafter\x\y[#1]{#2}\@nil

```

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

```

5120   \begin{group}
5121     \def\x#1\ifvoid\LT@firsthead\copy#2\@nil{%
5122       \endgroup
5123       \def\LT@start{%
5124         #1%
5125         \let\@currentHlabel\Hy@LT@currentHlabel
5126         \let\@currentHref\Hy@LT@currentHref
5127         \Hy@raisedlink{%
5128           \hyper@anchorstart{\@currentHref}\hyper@anchorend
5129         }%
5130         \ifvoid\LT@firsthead\copy
5131         #2%
5132       }%
5133     }%

```

```

5134 \expandafter\x\LT@start\@nil
5135 }{}

```

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.

```

5136 \let\new@refstepcounter\refstepcounter
5137 \let\H@equation\equation
5138 \let\H@endequation\endequation

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

```

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.

```

5172 \newif\if@eqnstar
5173 \@eqnstarfalse
5174 \let\H@eqnarray\eqnarray

```

```

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

```

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.

```

5196 \@namedef{eqnarray*}{%
5197   \def\@eqncr{\nonumber\@seqncr}\@eqnstartrue\eqnarray
5198 }
5199 \@namedef{endeqnarray*}{%
5200   \nonumber\endeqnarray\@eqnstarfalse
5201 }

```

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

```

5202 \@ifundefined{subeqnarray}{}{%
5203   \let\H@subeqnarray\subeqnarray
5204   \let\H@endsubeqnarray\endsubeqnarray
5205   \def\subeqnarray{%
5206     \let\Hy@reserved@a\relax
5207     \H@subeqnarray
5208     \@ifundefined{theHequation}{%
5209       \make@stripped@name{theequation}%
5210       \let\theHequation\newname
5211     }{}%
5212     \hyper@makecurrent{equation}%
5213     \hyper@anchorstart{\@currentHref}{\hyper@anchorend
5214   }%
5215   \def\endsubeqnarray{%
5216     \H@endsubeqnarray
5217   }%
5218   \newcommand\theHsubequation{\theHequation\alpha{subequation}}%
5219 }

```

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

```

5220 \def\make@stripped@name#1{%
5221   \begingroup
5222     \escapechar\m@ne
5223     \global\let\newname\empty
5224     \protected@edef\Hy@tempa{#1}%
5225     \edef\@tempb{%

```

```

5226     \noexpand\@tfor\noexpand\Hy@tempa:=%
5227     \expandafter\strip@prefix\meaning\Hy@tempa
5228   }%
5229   \@tempb\do{%
5230     \if\Hy@tempa\else
5231       \if\Hy@tempa\else
5232         \xdef\newname{\newname\Hy@tempa}%
5233       \fi
5234     \fi
5235   }%
5236 \endgroup
5237 }

Support for amsmath's subequations:

5238 \begingroup\expandafter\expandafter\expandafter\endgroup
5239 \expandafter\ifx\csname subequations\endcsname\relax
5240 \else
5241   \let\HyOrg@subequations\subequations
5242   \def\subequations{%
5243     \stepcounter{equation}%
5244     \protected@edef\theHparentequation{%
5245       \@ifundefined{theHequation}\theequation\theHequation
5246     }%
5247     \addtocounter{equation}{-1}%
5248     \HyOrg@subequations
5249     \def\theHequation{\theHparentequation\alph{equation}}%
5250     \ignorespaces
5251   }%
5252 \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.

```

5253 \@ifpackageloaded{tabularx}{\Hy@hyperfootnotesfalse}{}
5254 \ifHy@hyperfootnotes
5255   \newcounter{Hfootnote}%
5256   \let\H@@footnotetext\@footnotetext
5257   \let\H@@footnotemark\@footnotemark
5258   \def\@xfootnotenext[#1]{%
5259     \begingroup
5260       \csname c@\@mpfn\endcsname #1\relax
5261       \unrestored@protected\xdef\@thefnmark{\thempfn}%
5262     \endgroup
5263     \ifx\@footnotetext\@mpfootnotetext
5264       \expandafter\H@@mpfootnotetext
5265     \else
5266       \expandafter\H@@footnotetext
5267     \fi
5268   }%
5269   \def\@xfootnotemark[#1]{%
5270     \begingroup
5271     \c@footnote #1\relax

```

```

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

```

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.

```

5303 \def\@footnotemark{%
5304   \leavevmode
5305   \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
5306   \stepcounter{Hfootnote}%
5307   \global\let\Hy@saved@currentHlabel\@currentHlabel
5308   \global\let\Hy@saved@currentHref\@currentHref
5309   \hyper@makecurrent{Hfootnote}%
5310   \global\let\Hy@footnote@currentHlabel\@currentHlabel
5311   \global\let\Hy@footnote@currentHref\@currentHref
5312   \global\let\@currentHlabel\Hy@saved@currentHlabel
5313   \global\let\@currentHref\Hy@saved@currentHref
5314   \hyper@linkstart{link}{\Hy@footnote@currentHref}%
5315   \@makefnmark
5316   \hyper@linkend
5317   \ifhmode\spacefactor\@x@sf\fi
5318   \relax
5319 }%

```

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


```

5320 \@ifpackageloaded{longtable}{%
5321   \CheckCommand*{\LT@p@ftntext}[1]{%
5322     \edef\@tempa{%
5323       \the\LT@p@ftn
5324       \noexpand\footnotetext[\the\c@footnote]%
5325     }%
5326     \global\LT@p@ftn\expandafter{\@tempa{#1}}%
5327   }%
5328   \long\def\LT@p@ftntext#1{%
5329     \edef\@tempa{%
5330       \the\LT@p@ftn
5331       \begingroup
5332         \noexpand\c@footnote=\the\c@footnote\relax
5333         \noexpand\protected@xdef
5334           \noexpand\@thefnmark{\noexpand\thempfn}%
5335         \noexpand\protected@xdef\noexpand\@thefnmark{%
5336           \noexpand\thempfn
5337         }%
5338         \expandafter\expandafter\expandafter\noexpand
5339         \expandafter\expandafter\expandafter\Hy@LT@footnotetext
5340         \expandafter\expandafter\expandafter{%
5341           \expandafter\Hy@footnote@currentHref\expandafter
5342           }\expandafter{\Hy@footnote@currentHlabel}%
5343       }%
5344       \global\LT@p@ftn\expandafter{%
5345         \@tempa{#1}%
5346       \endgroup
5347     }%
5348   }%
5349   \long\def\Hy@LT@footnotetext#1#2#3{%
5350     \H@@footnotetext{%
5351       \ifHy@nesting
5352         \hyper@@anchor{#1}{#3}%
5353       \else
5354         \Hy@raisedlink{%
5355           \hyper@@anchor{#1}{\relax}%
5356         }%
5357         \def\@currentHlabel{#2}%
5358         \def\@currentHref{#1}%
5359         \let\@currentlabelname\@empty
5360         #3%
5361       \fi
5362     }%
5363   }%
5364 }{}%

```

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

```

5365 \@ifpackageloaded{fancyvrb}{%
5366   \def\V@@footnotetext{%
5367     \insert\footins\bgroup
5368     \csname reset@font\endcsname
5369     \footnotesize
5370     \interlinepenalty\interfootnotelinepenalty
5371     \splittopskip\footnotesep
5372     \splitmaxdepth\dp\strutbox
5373     \floatingpenalty \@MM
5374     \hsize\columnwidth
5375     \@parboxrestore

```

```

5376 \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
5377 \@makefnmark}%
5378 \rule{\z@}{\footnotesep}%
5379 \bgroup
5380 \aftergroup\V@@@footnotetext
5381 \Hy@raisedlink{%
5382   \hyper@@anchor{\Hy@footnote@currentHref}{\relax}%
5383 }%
5384 \let\@currentHlabel\Hy@footnote@currentHlabel
5385 \let\@currentHref\Hy@footnote@currentHref
5386 \let\@currentlabelname\@empty
5387 \ignorespaces
5388 }%
5389 }-%

```

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.

```

5390 \let\HyOrg@maketitle\maketitle
5391 \def\maketitle{%
5392   \let\Hy@saved@footnotemark\@footnotemark
5393   \let\Hy@saved@footnotetext\@footnotetext
5394   \let\@footnotemark\H@@footnotemark
5395   \let\@footnotetext\H@@footnotetext
5396   \@ifnextchar[\Hy@maketitle@optarg{% ]
5397     \HyOrg@maketitle
5398     \Hy@maketitle@end
5399   }%
5400 }%
5401 \def\Hy@maketitle@optarg[#1]{%
5402   \HyOrg@maketitle[#{#1}]%
5403   \Hy@maketitle@end
5404 }%
5405 \def\Hy@maketitle@end{%
5406   \ifx\@footnotemark\H@@footnotemark
5407     \let\@footnotemark\Hy@saved@footnotemark
5408   \fi
5409   \ifx\@footnotetext\H@@footnotetext
5410     \let\@footnotetext\Hy@saved@footnotetext
5411   \fi
5412 }%

```

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

```

5413 \def\realfootnote{%
5414   \@ifnextchar[\@xfootnote{%
5415     \stepcounter{\@mpfn}%
5416     \protected@xdef\@thefnmark{\thempfn}%
5417     \H@@footnotemark\H@@footnotetext
5418   }%
5419 }%

5420 \fi
5421 \Hy@DisableOption{hyperfootnotes}

5422 </package>
5423 <*check>
5424 \checklatex
5425 \checkcommand\def\@xfootnotenext[#1]{%
5426   \begingroup

```

```

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

```

5448 \def\caption{%
5449 \ifx\@capytype\@undefined
5450 \latexerror{\noexpand\caption outside float}\@ehd
5451 \expandafter\@gobble
5452 \else
5453 \H@refstepcounter\@capytype
5454 \let\Hy@tempa\@caption
5455 \ifundefined{float@caption}{%
5456 }{%
5457 \expandafter\ifx\csname @float@c@\@capytype\endcsname
5458 \float@caption
5459 \let\Hy@tempa\Hy@float@caption
5460 \fi
5461 }%
5462 \expandafter\@firstofone
5463 \fi
5464 {\@dblarg{\Hy@tempa\@capytype}}}%
5465 }
5466 \long\def\@caption#1[#2]#3{%
5467 \expandafter\ifx\csname if@capstart\expandafter\endcsname
5468 \csname iftrue\endcsname
5469 \global\let\@currentHref\hc@currentHref
5470 \else
5471 \hyper@makecurrent{\@capytype}%
5472 \fi
5473 \def\@currentlabelname{#2}%
5474 \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
5475 \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
5476 }%
5477 \begingroup

```

```

5478 \parboxrestore
5479 \if@minipage
5480 \setminipage
5481 \fi
5482 \normalsize
5483 \expandafter\ifx\csname if@capstart\expandafter\endcsname
5484 \csname iftrue\endcsname
5485 \global\@capstartfalse
5486 \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
5487 \else
5488 \@makecaption{\csname fnum@#1\endcsname}{%
5489 \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

5490 \ifHy@nesting
5491 \hyper@@anchor{\@currentHref}{#3}%
5492 \else
5493 \Hy@raisedlink{\hyper@@anchor{\@currentHref}{\relax}}#3%
5494 \fi
5495 }%
5496 \fi
5497 \par
5498 \endgroup
5499 }

```

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.

```

5500 \let\Hy@float@caption\@caption
5501 \ifpackageloaded{float}{%
5502 \def\Hy@float@caption{%
5503 \ifx\Hy@float@currentHref\@undefined
5504 \hyper@makecurrent{\@captype}%
5505 \global\let\Hy@float@currentHref\@currentHref
5506 \else
5507 \let\@currentHref\Hy@float@currentHref
5508 \fi
5509 \float@caption
5510 }%
5511 \let\HyOrg@float@makebox\float@makebox
5512 \renewcommand{\float@makebox}[1]{%
5513 \HyOrg@float@makebox{%
5514 #1\relax
5515 \ifx\Hy@float@currentHref\@undefined
5516 \else
5517 \hyper@@anchor{\Hy@float@currentHref}{\relax}%
5518 \global\let\Hy@float@currentHref\@undefined
5519 \fi
5520 }%
5521 }%
5522 }{}
5523 \</package>
5524 \*check)
5525 \checklatex[1999/06/01 - 2000/06/01]
5526 \checkcommand\def\caption{%
5527 \ifx\@captype\@undefined
5528 \@latexerror{\noexpand\caption outside float}\@ehd
5529 \expandafter\@gobble
5530 \else

```

```

5531 \refstepcounter\@capttype
5532 \expandafter\@firstofone
5533 \fi
5534 {\@dblarg{\@caption\@capttype}}%
5535 }
5536 \checkcommand\long\def\@caption#1[#2]#3{%
5537 \par
5538 \addcontentsline{\csname ext@#1\endcsname}{#1}%
5539 {\protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}}%
5540 \begingroup
5541 \@parboxrestore
5542 \if@minipage
5543 \setminipage
5544 \fi
5545 \normalsize
5546 \makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
5547 \endgroup
5548 }
5549 \</check>
5550 \<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 *drfcite* may break.

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

```

5551 \def\hyper@natlinkstart#1{%
5552 \Hy@backout{#1}%
5553 \hyper@linkstart{cite}{cite.#1}%
5554 \def\hyper@nat@current{#1}%
5555 }
5556 \def\hyper@natlinkend{%
5557 \hyper@linkend
5558 }
5559 \def\hyper@natlinkbreak#1#2{%
5560 \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
5561 }
5562 \def\hyper@natanchorstart#1{%
5563 \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
5564 }
5565 \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.

```

5566 \ifundefined{NAT@parse}{%
5567 \providecommand*\@extra@binfo{}%
5568 \providecommand*\@extra@b@citeb{}%
5569 \def\bibcite#1#2{%
5570 \newl@bel{b}{#1\@extra@binfo}{%

```

```

5571     \hyper@@link[cite]{\cite.#1\@extra@b@citeb}{#2}%
5572   }%
5573 }%
5574 \gdef\@extra@binfo{%

```

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

```

5575 \let\Hy@bibcite\bibcite
5576 \begingroup
5577   \ifundefined{bbl@cite@choice}{\%
5578     \g@addto@macro\bbl@cite@choice{%
5579       \let\bibcite\Hy@bibcite
5580     }%
5581   }%
5582 \endgroup

```

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

```

5583 \providecommand*\@BIBLABEL{\@biblabel}%
5584 \def\@bibitem[#1]#2{%
5585   \@skiphyperreftrue
5586   \H@item[%
5587     \ifx\Hy@raisedlink\@empty
5588       \hyper@anchorstart{cite.#2\@extra@b@citeb}%
5589       \@BIBLABEL{#1}%
5590     \hyper@anchorend
5591   \else
5592     \Hy@raisedlink{%
5593       \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
5594     }%
5595     \@BIBLABEL{#1}%
5596   \fi
5597   \hfill
5598 ]%
5599 \@skiphyperreffalse
5600 \if@filesw
5601   \begingroup
5602     \let\protect\noexpand
5603     \immediate\write\@auxout{%
5604       \string\bibcite{#2}{#1}%
5605     }%
5606   \endgroup
5607 \fi
5608 \ignorespaces
5609 }%

```

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

```

5610 \def\@bibitem#1{%
5611   \@skiphyperreftrue\H@item\@skiphyperreffalse
5612   \Hy@raisedlink{%
5613     \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
5614   }%
5615   \if@filesw
5616     \begingroup
5617       \let\protect\noexpand
5618       \immediate\write\@auxout{%
5619         \string\bibcite{#1}{\the\value{\@listctr}}%
5620       }%
5621     \endgroup

```

```

5622 \fi
5623 \ignorespaces
5624 }%
5625 }{}

5626 </package>
5627 <*check>
5628 \checklatex
5629 \checkcommand\def\@lbibitem[#1]#2{%
5630 \item[\@biblabel{#1}\hfill]%
5631 \if@filesw
5632 {%
5633 \let\protect\noexpand
5634 \immediate\write\@auxout{%
5635 \string\bibcite{#2}{#1}%
5636 }%
5637 }%
5638 \fi
5639 \ignorespaces
5640 }
5641 \checkcommand\def\@bibitem#1{%
5642 \item
5643 \if@filesw
5644 \immediate\write\@auxout{%
5645 \string\bibcite{#1}{\the\value{\@listctr}}%
5646 }%
5647 \fi
5648 \ignorespaces
5649 }
5650 </check>
5651 <*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.

```

5652 \@ifclassloaded{revtex}{%
5653 \Hy@Info{*** compatibility with revtex **** }%
5654 \def\revtex@checking#1#2{%
5655 \expandafter\let\expandafter\T@temp\csname b@#1\endcsname
5656 \expandafter\def\csname b@#1\endcsname{#2}%
5657 \@SetMaxRnhefLabel{#1}%
5658 \expandafter\let\csname b@#1\endcsname\T@temp
5659 }%

```

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

```

5660 \@ifundefined{CITE}{\def\CITE{\@cite}}{}%
5661 \providecommand*{\@extra@b@citeb}{}%
5662 \def\CITEX[#1]#2{%
5663 \let\@citea\@empty
5664 \leavevmode
5665 \unskip
5666 $^{}%
5667 \scriptstyle
5668 \CITE{%
5669 \@for\@citeb:=#2\do{%
5670 \@citea
5671 \def\@citea{\penalty\@m\ }%

```

```

5672         \edef\@citeb{\expandafter\@firstofone\@citeb}%
5673         \if@files
5674             \immediate\write\@auxout{\string\citation{\@citeb}}%
5675         \fi
5676         \@ifundefined{b@\@citeb\extra@b@citeb}{%
5677             \mbox{\reset@font\bfseries ?}%
5678             \G@refundefinedtrue
5679             \@latex@warning{%
5680                 Citation '\@citeb' on page \thepage \space undefined%
5681             }%
5682         }{%
5683             {\csname b@\@citeb\extra@b@citeb\endcsname}%
5684         }%
5685     }%
5686 }{\#1}%
5687 }$%
5688 }%

```

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.

```

5689 \def\@citex[#1]#2{%
5690     \let\@citea\@empty
5691     \@cite{%
5692         \@for\@citeb:=#2\do{%
5693             \@citea
5694             \def\@citea{\penalty\@m\ }%
5695             \edef\@citeb{\expandafter\@firstofone\@citeb}%
5696             \if@files
5697                 \immediate\write\@auxout{\string\citation{\@citeb}}%
5698             \fi
5699             \@ifundefined{b@\@citeb\extra@b@citeb}{%
5700                 \mbox{\reset@font\bfseries ?}%
5701                 \G@refundefinedtrue
5702                 \@latex@warning{%
5703                     Citation '\@citeb' on page \thepage \space undefined%
5704                 }%
5705             }{%
5706                 \hbox{\csname b@\@citeb\extra@b@citeb\endcsname}%
5707             }%
5708         }%
5709     }{\#1}%
5710 }%
5711 }{}

```

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 pdfTeX, then `hyperref` is already loaded at the begin of `harvard.sty`, and the `\newcommand` macros causes error messages.

```

5712 \@ifpackageloaded{harvard}{%
5713     \AtBeginDocument{%
5714         \Hy@Info{*** compatibility with harvard ***}%
5715         \Hy@raiselinksfalse
5716         \def\harvardcite#1#2#3#4{%

```



```

5717 \global\@namedef{HAR@fn@#1}{\hyper@@link[cite]{}{cite.#1}{#2}}%
5718 \global\@namedef{HAR@an@#1}{\hyper@@link[cite]{}{cite.#1}{#3}}%
5719 \global\@namedef{HAR@yr@#1}{\hyper@@link[cite]{}{cite.#1}{#4}}%
5720 \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
5721 }%
5722 \def\HAR@citetoaux#1{%
5723 \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
5724 \ifHy@backref
5725 \ifx\@empty\@currentlabel
5726 \else
5727 \@bsphack
5728 \if@filesw
5729 \protected@write\@auxout{}{%
5730 \string\@writefile{brf}{%
5731 \string\backcite{#1}{%
5732 {\thepage}{\@currentlabel}{\@currentHref}%
5733 }%
5734 }%
5735 }%
5736 \fi
5737 \@esphack
5738 \fi
5739 \fi
5740 }%
5741 \def\harvarditem{%
5742 \@ifnextchar[{\@harvarditem}{\@harvarditem[\null]}}%
5743 }%
5744 \def\@harvarditem[#1]#2#3#4#5\par{%
5745 \item[]%
5746 \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
5747 \if@filesw
5748 \begingroup
5749 \def\protect##1{\string ##1\space}%
5750 \ifthenelse{\equal{#1}{\null}}%
5751 {\def\next{{#4}{#2}{#3}}}%
5752 {\def\next{{#4}{#2}{#1}{#3}}}%
5753 \immediate\write\@auxout{\string\harvardcite\codeof\next}%
5754 \endgroup
5755 \fi
5756 \protect\hspace*{-\labelwidth}%
5757 \protect\hspace*{-\labelsep}%
5758 \ignorespaces
5759 #5%
5760 \ifHy@backref
5761 \newblock
5762 \backref{\csname br@#4\endcsname}%
5763 \fi
5764 \par
5765 }%

```

\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:

```

5766 \long\def\HAR@checkcitations#1#2#3#4{%
5767 \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#2}}%
5768 \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
5769 \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#3}}%

```

```

5770         \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
5771         \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#4}}%
5772         \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
5773         \else
5774         \@tempswatrue
5775         \fi
5776         \else
5777         \@tempswatrue
5778         \fi
5779         \else
5780         \@tempswatrue
5781         \fi
5782     }%
5783 }%

5784 }{}

```

37.2 Package chicago

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

```

5785 \@ifpackageloaded{chicago}{%

```

`\citeN`

```

5786 \def\citeN{%
5787     \def\@citesep{-1000}%
5788     \def\@cite##1##2{##1}%
5789     \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
5790     \@citedata@opt
5791 }%

```

`\shortciteN`

```

5792 \def\shortciteN{%
5793     \def\@citesep{-1000}%
5794     \def\@cite##1##2{##1}%
5795     \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
5796     \@citedata@opt
5797 }%

```

`\@citedata@opt`

```

5798 \def\@citedata@opt{%
5799     \let\@cite@opt\@empty
5800     \@ifnextchar [{%
5801         \@tempswatrue
5802         \@citedatax@opt
5803     }{%
5804         \@tempswafalse
5805         \@citedatax[]%
5806     }%
5807 }%

```

`\@citedatax@opt`

```

5808 \def\@citedatax@opt[#1]{%
5809     \def\@cite@opt{, #1}%
5810     \@citedatax[{#1}]%
5811 }%

5812 }{}

```

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.

```
5813 \def\Hy@EveryPageAnchor{%
5814   \Hy@DistillerDestFix
5815   \ifHy@pageanchor
5816     \ifHy@hypertextnames
5817     \ifHy@plainpages
5818       \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
5819     \else
5820       \begingroup
5821         \let\@number\@firstofone
5822         \Hy@unicodedefalse
5823         \pdfstringdef\@theH@page{\thepage}%
5824       \endgroup
5825       \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@theH@page}}%
5826     \fi
5827   \else
5828     \Hy@GlobalStepCount\Hy@pagecounter
5829     \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\Hy@pagecounter}}%
5830   \fi
5831   \vbox to 0pt{%
5832     \kern\voffset
5833     \kern\topmargin
5834     \kern-1bp\relax
5835     \hbox to 0pt{%
5836       \kern\hoffset
5837       \kern\ifodd\value{page}%
5838         \oddsidemargin
5839       \else
5840         \evensidemargin
5841       \fi
5842     \kern-1bp\relax
5843     \Hy@TempPageAnchor
5844     \hss
5845   }%
5846   \vss
5847 }%
5848 \fi
5849 }
5850 \g@addto@macro\Hy@EveryPageBoxHook{%
5851   \Hy@EveryPageAnchor
5852 }
```

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.

```
5853 \begingroup\expandafter\expandafter\expandafter\endgroup
```

```

5854 \expandafter\ifx\csname chapter\endcsname\relax
5855   \def\toclevel@part{0}%
5856 \else
5857   \def\toclevel@part{-1}%
5858 \fi
5859 \def\toclevel@chapter{0}
5860 \def\toclevel@section{1}
5861 \def\toclevel@subsection{2}
5862 \def\toclevel@subsubsection{3}
5863 \def\toclevel@paragraph{4}
5864 \def\toclevel@subparagraph{5}
5865 \def\toclevel@figure{0}
5866 \def\toclevel@table{0}
5867 \@ifpackageloaded{listings}{%
5868   \providecommand*\theHlstlisting{\thelstlisting}%
5869   \providecommand*\toclevel@lstlisting{0}%
5870 }{}
5871 \@ifpackageloaded{listing}{%
5872   \providecommand*\theHlisting{\thelisting}%
5873   \providecommand*\toclevel@listing{0}%
5874 }{}
5875 \def\addcontentsline#1#2#3{% toc extension, type, tag
5876   \begingroup
5877     \let\label@gobble
5878     \let\textlatin@firstofone
5879     \ifx\@currentHref\@empty
5880       \Hy@Warning{%
5881         No destination for bookmark of \string\addcontentsline,%
5882         \MessageBreak destination is added%
5883       }%
5884       \phantomsection
5885     \fi
5886     \expandafter\ifx\csname toclevel@#2\endcsname\relax
5887       \begingroup
5888         \def\Hy@tempa{#1}%
5889         \ifx\Hy@tempa\Hy@bookmarkstype
5890           \Hy@WarningNoLine{%
5891             bookmark level for unknown #2 defaults to 0%
5892           }%
5893         \else
5894           \Hy@Info{bookmark level for unknown #2 defaults to 0}%
5895         \fi
5896       \endgroup
5897       \expandafter\gdef\csname toclevel@#2\endcsname{0}%
5898     \fi
5899     \edef\Hy@toclevel{\csname toclevel@#2\endcsname}%
5900     \Hy@writebookmark{\csname the#2\endcsname}%
5901       {#3}%
5902       {\@currentHref}%
5903       {\Hy@toclevel}%
5904       {#1}%
5905     \ifHy@verbose
5906       \def\Hy@tempa{#3}%
5907       \@onelevel@sanitize\Hy@tempa
5908       \typeout{pdfTeX: bookmark at \the\inputlineno: %
5909         {\csname the#2\endcsname}%
5910         {\Hy@tempa}%

```

```

5911         {\@currentHref}%
5912         {\Hy@toclevel}%
5913         {#1}%
5914     }%
5915 \fi
5916 \addtocontents{#1}{%
5917     \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
5918 }%
5919 \endgroup
5920 }
5921 \def\contentsline#1#2#3#4{%
5922     \ifx\#4\%
5923         \csname l@#1\endcsname{#2}{#3}%
5924     \else
5925         \ifcase\Hy@linktoc % none
5926             \csname l@#1\endcsname{#2}{#3}%
5927         \or % section
5928             \csname l@#1\endcsname{%
5929                 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
5930             }{#3}%
5931         \or % page
5932             \csname l@#1\endcsname{#2}{%
5933                 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
5934             }%
5935         \else % all
5936             \csname l@#1\endcsname{%
5937                 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
5938             }{%
5939                 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
5940             }%
5941         \fi
5942     \fi
5943 }
5944 \end{package}
5945 \end{check}
5946 \checklatex
5947 \checkcommand\def\addcontentsline#1#2#3{%
5948     \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%
5949 }
5950 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
5951 \end{check}
5952 \end{package}

```

40 New counters

The whole theorem business makes up new counters on the fly; we are going to intercept this. Sigh. Do it at the level where new counters are defined.

```

5953 \let\H@definecounter\@definecounter
5954 \def\@definecounter#1{%
5955     \H@definecounter{#1}%
5956     \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
5957 }

```

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.

```

5958 \let\H@newctr\@newctr

```

```

5959 \def\@newctr#1[#2]{%
5960   \H@newctr#1[#2]}%
5961   \expandafter\def\csname theH#1\endcsname{%
5962     \csname the\@ifundefined{theH#2}{H}#2\endcsname.\arabic{#1}%
5963   }%
5964 }

```

41 AMS¹TeX 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.

```

5965 \ifpackageloaded{amsmath}{%
5966   \def\Hy@make@anchor{%
5967     \Hy@GlobalStepCount\Hy@linkcounter
5968     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
5969     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
5970   }%
5971   \def\Hy@make@df@tag@@#1{%
5972     \gdef\df@tag{%
5973       \maketag@@@{\Hy@make@anchor#1}%
5974       \def\@currentlabel{#1}%
5975     }%
5976   }%
5977   \def\Hy@make@df@tag@@@#1{%
5978     \gdef\df@tag{%
5979       \tagform@{\Hy@make@anchor#1}%
5980       \toks@{\p@equation{#1}}%
5981       \edef\@currentlabel{\the\toks@}%
5982     }%
5983   }%
5984   \let\HyOrg@make@df@tag@@\make@df@tag@@
5985   \let\HyOrg@make@df@tag@@@\make@df@tag@@@
5986   \let\make@df@tag@@\Hy@make@df@tag@@
5987   \let\make@df@tag@@@\Hy@make@df@tag@@@
5988 }{}

```

Only play with `\seteqlebal` if we are using pdf_{tex}. Other drivers cause problems; requested by Michael Downes (AMS).

```

5989 \ifpackagewith{hyperref}{pdftex}{%
5990   \let\H@seteqlabel\@seteqlabel
5991   \def\@seteqlabel#1{%
5992     \H@seteqlabel{#1}%
5993     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
5994     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
5995   }%
5996 }{}

```

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.

```

5997 \let\HyOrg@addtoreset\@addtoreset
5998 \def\@addtoreset#1#2{%
5999   \HyOrg@addtoreset{#1}{#2}%
6000   \expandafter\xdef\csname theH#1\endcsname{%
6001     \expandafter\noexpand
6002     \csname the\@ifundefined{theH#2}{}H#2\endcsname
6003     .\noexpand\the\noexpand\value{#1}%
6004   }%
6005 }

```

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

```

6006 </package>
6007 <*check>
6008 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
6009 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
6010   \@ifundefined{c@#2}{\@nocounterr{#2}}{%
6011     \@ifundefined{c@#3}{\@nocnterr{#3}}{%
6012       \@addtoreset{#2}{#3}%
6013       \@xp\xdef\csname the#2\endcsname{%
6014         \@xp@nx\csname the#3\endcsname .\@nx#1{#2}%
6015       }%
6016     }%
6017   }%
6018 }%
6019 </check>
6020 <*package>
6021 \@ifpackageloaded{amsmath}{%
6022   \@ifpackagelater{amsmath}{1999/12/14}{%
6023     \renewcommand*{\numberwithin}[3][\arabic]{%
6024       \@ifundefined{c@#2}{\@nocounterr{#2}}{%
6025         \@ifundefined{c@#3}{\@nocnterr{#3}}{%
6026           \HyOrg@addtoreset{#2}{#3}%
6027           \@xp\xdef\csname the#2\endcsname{%
6028             \@xp@nx\csname the#3\endcsname .\@nx#1{#2}%
6029           }%
6030           \@xp\xdef\csname theH#2\endcsname{%
6031             \@xp@nx
6032             \csname the\@ifundefined{theH#3}{}H#3\endcsname
6033             .\@nx#1{#2}%
6034           }%
6035         }%
6036       }%
6037     }%
6038   }{%
6039     \Hy@WarningNoLine{%
6040       \string\numberwithin\space of package 'amsmath' %
6041       only fixed\MessageBreak

```

```

6042     for version 2000/06/06 v2.12 or newer%
6043   }%
6044 }%
6045 {}

```

42 Included figures

Simply intercept the low level graphics package macro.

```

6046 \ifHy@figures
6047   \let\Hy@Gin@setfile\Gin@setfile
6048   \def\Gin@setfile#1#2#3{%
6049     \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
6050   }%
6051 \fi
6052 \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.

```

6053 \ifHy@hyperindex
6054   \def\HyInd@ParenLeft{({}%
6055   \def\HyInd@ParenRight{)}}%
6056   \Hy@nextfalse
6057   \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
6058   \@ifpackageloaded{index}{\Hy@nexttrue}{}%
6059   \begingroup
6060     \lccode'\|=\expandafter'\HyInd@EncapChar\relax
6061   \lowercase{\endgroup
6062     \ifHy@next
6063       \let\HyInd@org@wrindex\@wrindex
6064       \def\@wrindex#1#2{\HyInd@wrindex{#1}#2||\}%
6065       \def\HyInd@wrindex#1#2|#3|#4\{\%
6066         \ifx\|#3\%
6067           \HyInd@org@wrindex{#1}{#2|hyperpage}%
6068         \else
6069           \def\Hy@temp@A{#3}%
6070           \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
6071             \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
6072             \relax
6073           \HyInd@org@wrindex{#1}{#2|#3}%
6074         \else
6075           \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
6076         \fi
6077       \fi
6078     }%
6079   \else

```



```

6080 \def\@wrindex#1{\@wrindex#1||\}%
6081 \def\@wrindex#1|#2|#3\{\%
6082 \if@filesw
6083 \ifx\#2\%
6084 \protected@write\@indexfile{}\%
6085 \string\indexentry{#1|hyperpage}{\thepage}%
6086 }%
6087 \else
6088 \def\Hy@temp@A{#2}%
6089 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
6090 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
6091 \relax
6092 \protected@write\@indexfile{}\%
6093 \string\indexentry{#1|#2}{\thepage}%
6094 }%
6095 \else
6096 \protected@write\@indexfile{}\%
6097 \string\indexentry{#1|#2hyperpage}{\thepage}%
6098 }%
6099 \fi
6100 \fi
6101 \fi
6102 \endgroup
6103 \@esphack
6104 }%
6105 \fi
6106 }%
6107 \fi
6108 \Hy@DisableOption{hyperindex}
6109 \Hy@DisableOption{encap}

```

This again is quite flaky, but allow for the common situation of a page range separated by en-rule. We split this into two different hyperlinked pages.

```

6110 \def\hyperpage#1{\@hyperpage#1----\}
6111 \def\@hyperpage#1--#2--#3\{\%
6112 \ifx\#2\%
6113 \@commahyperpage{#1}%
6114 \else
6115 \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
6116 \fi
6117 }
6118 \def\@commahyperpage#1{\@commahyperpage#1, ,\}
6119 \def\@commahyperpage#1, #2,#3\{\%
6120 \ifx\#2\%
6121 \HyInd@pagelink{#1}%
6122 \else
6123 \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
6124 \fi
6125 }

```

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

```

6126 \def\HyInd@pagelink#1{\%
6127 \begingroup
6128 \toks@={}%
6129 \HyInd@removespaces#1 \@nil
6130 \endgroup
6131 }

```

```

6132 \def\HyInd@removespaces#1 #2\@nil{%
6133   \toks@=\expandafter{\the\toks@#1}%
6134   \ifx\#2\%
6135     \edef\x{\the\toks@}%
6136     \ifx\x\@empty
6137       \else
6138         \hyperlink{page.\the\toks@}{\the\toks@}%
6139       \fi
6140     \else
6141       \Hy@ReturnAfterFi{%
6142         \HyInd@removespaces#2\@nil
6143       }%
6144     \fi
6145 }

```

44 Compatibility with foiltex

```

6146 \@ifclassloaded{foils}{%
6147   \providecommand*\ext@table{lot}%
6148   \providecommand*\ext@figure{lof}%
6149 }{}

```

45 Compatibility with seminar slide package

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

```

6150 \@ifclassloaded{seminar}{%
6151   \Hy@seminarslidestrue\newcommand\theHslide{\arabic{slide}}%
6152 }{%
6153   \Hy@seminarslidesfalse
6154 }
6155 \@ifpackageloaded{slidesec}{%
6156   \newcommand\theHslidesection {\arabic{slidesection}}%
6157   \newcommand\theHslidesubsection{%
6158     \theHslidesection.\arabic{slidesubsection}}%
6159   }%
6160   \def\slide@heading[#1]#2{%
6161     \H@refstepcounter{slidesection}%
6162     \@addtoreset{slidesubsection}{slidesection}%
6163     \addtocontents{los}{%
6164       \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}%
6165       {\@SCTR}{\slideheading.\theslidesection}}%
6166     }%
6167   \def\Hy@tempa{#2}%
6168   \ifx\Hy@tempa\@empty
6169     \else
6170       {%
6171         \edef\@currentlabel{%
6172           \csname p@slidesection\endcsname\theslidesection
6173         }%
6174         \makeslideheading{#2}%
6175       }%
6176     \fi
6177   \gdef\theslideheading{#1}%
6178   \gdef\theslidesubheading{}%
6179   \ifHy@bookmarksnumbered

```

```

6180     \def\Hy@slidetitle{\theslide\section\space #1}%
6181   \else
6182     \def\Hy@slidetitle{#1}%
6183   \fi
6184   \ifHy@hypertextnames
6185     \ifHy@naturalnames
6186       \hyper@@anchor{slideheading.\theslide\section}{\relax}%
6187       \Hy@writebookmark
6188         {\theslide\section}%
6189         {\Hy@slidetitle}%
6190         {slideheading.\theslide\section}%
6191         {1}%
6192         {toc}%
6193     \else
6194       \hyper@@anchor{slideheading.\theHslide\section}{\relax}%
6195       \Hy@writebookmark
6196         {\theslide\section}%
6197         {\Hy@slidetitle}%
6198         {slideheading.\theHslide\section}%
6199         {1}%
6200         {toc}%
6201     \fi
6202   \else
6203     \Hy@GlobalStepCount\Hy@linkcounter
6204     \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
6205     \Hy@writebookmark
6206       {\theslide\section}%
6207       {\Hy@slidetitle}%
6208       {slideheading.\the\Hy@linkcounter}%
6209       {1}%
6210       {toc}%
6211   \fi
6212 }%
6213 \def\slide@subheading[#1]#2{%
6214   \H@refstepcounter{slidesubsection}%
6215   \addtocontents{los}{%
6216     \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
6217     {\@SCTR}{slideheading.\theslide\subsection}%
6218   }%
6219   \def\Hy@tempa{#2}%
6220   \ifx\Hy@tempa\@empty
6221   \else
6222     {%
6223       \edef\@currentlabel{%
6224         \csname p@slidesubsection\endcsname\theslide\subsection
6225       }%
6226       \makeslide\subheading{#2}%
6227     }%
6228   \fi
6229   \gdef\theslide\subheading{#1}%
6230   \ifHy@bookmarksnumbered
6231     \def\Hy@slidetitle{\theslide\subsection\space #1}%
6232   \else
6233     \def\Hy@slidetitle{#1}%
6234   \fi
6235   \ifHy@hypertextnames
6236     \ifHy@naturalnames

```

```

6237         \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
6238         \Hy@writebookmark
6239             {\theslidesubsection}%
6240             {\Hy@slidetitle}%
6241             {slideheading.\theslidesubsection}%
6242             {2}%
6243             {toc}%
6244     \else
6245         \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
6246         \Hy@writebookmark
6247             {\theslidesubsection}%
6248             {\Hy@slidetitle}%
6249             {slideheading.\theHslidesubsection}%
6250             {2}%
6251             {toc}%
6252     \fi
6253 \else
6254     \Hy@GlobalStepCount\Hy@linkcounter
6255     \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
6256     \Hy@writebookmark
6257         {\theslidesubsection}%
6258         {\Hy@slidetitle}%
6259         {slideheading.\the\Hy@linkcounter}%
6260         {1}%
6261         {toc}%
6262 \fi
6263 }%
6264 \providecommand*{\listslidenam}{List of Slides}%
6265 \def\listofslides{%
6266     \section*{%
6267         \listslidenam
6268         \@mkboth{%
6269             \expandafter\MakeUppercase\listslidenam
6270         }{%
6271             \expandafter\MakeUppercase\listslidenam
6272         }%
6273     }%
6274     \def\l@slide##1##2##3##4{%
6275         \slide@undottedcline{%
6276             \slidenumberline{##3}{\hyperlink{##4}{##2}}%
6277         }{%
6278         }%
6279         \let\l@subslide\l@slide
6280         \@startlos
6281     }%
6282     \def\slide@contents{%
6283         \def\l@slide##1##2##3##4{%
6284             \slide@ccline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
6285         }%
6286         \let\l@subslide\@gobblefour
6287         \@startlos
6288     }%
6289     \def\Slide@contents{%
6290         \def\l@slide##1##2##3##4{%
6291             \ifcase\l@slide@flag
6292                 \message{##1 ** \the\c@slidesection}%
6293                 \ifnum##1>\c@slidesection

```

```

6294         \def\lslide@flag{1}%
6295         {%
6296             \large
6297             \slide@cline{%
6298                 \slidenumberline{$\rightarrow\bullet$}%
6299                 {\hyperlink{##4}{##2}}%
6300             }{##3}%
6301         }%
6302     \else
6303     {%
6304         \large
6305         \slide@cline{%
6306             \slidenumberline{$\surd\;\bullet$}%
6307             {\hyperlink{##4}{##2}}%
6308         }{##3}%
6309     }%
6310     \fi
6311 \or
6312     \def\lslide@flag{2}%
6313     {%
6314         \large
6315         \slide@cline{%
6316             \slidenumberline{$\bullet$}%
6317             {\hyperlink{##4}{##2}}%
6318         }{##3}%
6319     }%
6320 \or
6321     {%
6322         \large
6323         \slide@cline{%
6324             \slidenumberline{$\bullet$}%
6325             {\hyperlink{##4}{##2}}%
6326         }{##3}%
6327     }%
6328     \fi
6329 }%
6330 \def\l@subslide##1##2##3##4{%
6331     \ifnum\lslide@flag=1 %
6332         \@undottedtocline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}{}%
6333     \fi
6334 }%
6335 \def\lslide@flag{0}%
6336 \@startlos
6337 }%
6338 }{}

```

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.)

```

6339 \ifHy@texht
6340     \expandafter\endinput
6341 \fi
6342 \let\real@setref\@setref
6343 \def\@setref#1#2#3{% csname, extract group, refname
6344     \ifx#1\relax
6345         \protect\G@refundefinedtrue
6346         \nfss@text{\reset@font\bfseries ??}%
6347         \@latex@warning{%

```

```

6348      Reference '#3' on page \thepage \space undefined%
6349    }%
6350  \else
6351    \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
6352  \fi
6353 }

```

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

```

6354 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
6355   \begingroup
6356   \toks0={\hyper@@link{#5}{#4}}%
6357   \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
6358   \edef\x{\endgroup
6359     \the\toks0 \the\toks1 }%
6360   }%
6361   \x
6362 }
6363 \def\@pagesetref#1#2#3{% csname, extract macro, ref
6364   \ifx#1\relax
6365     \protect\G@refundefinedtrue
6366     \nfss@text{\reset@font\bfseries ??}%
6367     \@latex@warning{%
6368       Reference '#3' on page \thepage \space undefined%
6369     }%
6370   \else
6371     \protect\hyper@@link
6372     {\expandafter\@fifthoffive#1}%
6373     {page.\expandafter\@secondoffive#1}%
6374     {\expandafter\@secondoffive#1}%
6375   \fi
6376 }
6377 </package>
6378 <*check>
6379 \checklatex
6380 \checkcommand\def\@setref#1#2#3{%
6381   \ifx#1\relax
6382     \protect\G@refundefinedtrue
6383     \nfss@text{\reset@font\bfseries ??}%
6384     \@latex@warning{%
6385       Reference '#3' on page \thepage\space undefined%
6386     }%
6387   \else
6388     \expandafter#2#1\null
6389   \fi
6390 }
6391 </check>
6392 <*package>

```

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

```

6393 \def\HyRef@StarSetRef#1{%
6394   \begingroup
6395   \Hy@safe@activestrue
6396   \edef\x{#1}%
6397   \@onelevel@sanitize\x
6398   \edef\x{\endgroup
6399     \noexpand\HyRef@@StarSetRef

```

```

6400      \expandafter\noexpand\csname r@\x\endcsname{\x}%
6401    }%
6402  \x
6403 }
6404 \def\HyRef@StarSetRef#1#2#3{%
6405   \ifx#1\undefined
6406     \let#1\relax
6407   \fi
6408   \real@setref#1#3{#2}%
6409 }
6410 \def\@refstar#1{%
6411   \HyRef@StarSetRef{#1}\@firstoffive
6412 }
6413 \def\@pagerefstar#1{%
6414   \HyRef@StarSetRef{#1}\@secondoffive
6415 }
6416 \AtBeginDocument{%
6417   \@ifpackageloaded{varioref}{%
6418     \def\@Refstar#1{%
6419       \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
6420     }%
6421     \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
6422       \MakeUppercase#1%
6423     }%
6424     \DeclareRobustCommand*\@Ref*{%
6425       \@ifstar\@Refstar\HyRef@Ref
6426     }%
6427     \def\HyRef@Ref#1{%
6428       \hyperref[#{1}]{\Ref*{#1}}%
6429     }%
6430     \def\Vr@f#1{%
6431       \leavevmode\unskip\vref@space
6432       \hyperref[#{1}]{%
6433         \Ref*{#1}%
6434         \let\vref@space\nobreakspace
6435         \@vpageref[\unskip]{#1}%
6436       }%
6437     }%
6438     \def\vr@f#1{%
6439       \leavevmode\unskip\vref@space
6440       \begingroup
6441         \let\T@pageref\@pagerefstar
6442         \hyperref[#{1}]{%
6443           \ref*{#1}%
6444           \vpageref[\unskip]{#1}%
6445         }%
6446       \endgroup
6447     }%
6448   }{}%
6449 }
6450 \DeclareRobustCommand*\@autopageref{%
6451   \@ifstar{%
6452     \HyRef@autopagerefname\pageref*%
6453   }\HyRef@autopageref
6454 }
6455 \def\HyRef@autopageref#1{%
6456   \hyperref[#{1}]{\HyRef@autopagerefname\pageref*{#1}}%

```

```

6457 }
6458 \def\HyRef@autopagerefname{%
6459   \@ifundefined{pageautorefname}{%
6460     \@ifundefined{pagename}{%
6461       \Hy@Warning{No autoref name for 'page'}%
6462     }{%
6463       \pagename\nobreakspace
6464     }%
6465   }{%
6466     \pageautorefname\nobreakspace
6467   }%
6468 }
6469 \DeclareRobustCommand*{\autoref}{%
6470   \@ifstar{\HyRef@autoref\@gobbletwo}{\HyRef@autoref\hyper@@link}%
6471 }
6472 \def\HyRef@autoref#1#2{%
6473   \begingroup
6474     \Hy@safe@activetrue
6475     \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
6476   \endgroup
6477 }
6478 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
6479   \HyRef@ShowKeysRef{#2}%
6480   \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
6481     \edef\HyRef@thisref{%
6482       \expandafter\@fourthoffive#1\@empty\@empty\@empty
6483     }%
6484     \expandafter\HyRef@testreftype\HyRef@thisref.\.%
6485     \Hy@safe@activesfalse
6486     #3{%
6487       \expandafter\@fifthoffive#1\@empty\@empty\@empty
6488     }{%
6489       \expandafter\@fourthoffive#1\@empty\@empty\@empty
6490     }{%
6491       \HyRef@currentHtag
6492       \expandafter\@firstoffive#1\@empty\@empty\@empty
6493       \null
6494     }%
6495   \else
6496     \protect\G@refundefinedtrue
6497     \nfss@text{\reset@font\bfseries ??}%
6498     \@latex@warning{%
6499       Reference '#2' on page \thepage\space undefined%
6500     }%
6501   \fi
6502 }
6503 \def\HyRef@testreftype#1.#2\{\%
6504   \@ifundefined{#1autorefname}{%
6505     \@ifundefined{#1name}{%
6506       \HyRef@StripStar#1\*\@nil{#1}%
6507     }{\@ifundefined{\HyRef@name autorefname}{%
6508       \@ifundefined{\HyRef@name name}{%
6509         \def\HyRef@currentHtag{%
6510           \Hy@Warning{No autoref name for '#1'}%
6511         }{%
6512           \edef\HyRef@currentHtag{%
6513             \expandafter\noexpand\csname\HyRef@name name\endcsname

```



```

6514         \noexpand~%
6515     }%
6516 }%
6517 }{%
6518     \edef\HyRef@currentHtag{%
6519         \expandafter\noexpand\csname\HyRef@name\autorefname\endcsname
6520         \noexpand~%
6521     }%
6522 }%
6523 }{%
6524     \edef\HyRef@currentHtag{%
6525         \expandafter\noexpand\csname#1name\endcsname
6526         \noexpand~%
6527     }%
6528 }%
6529 }{%
6530     \edef\HyRef@currentHtag{%
6531         \expandafter\noexpand\csname#1autorefname\endcsname
6532         \noexpand~%
6533     }%
6534 }%
6535 }
6536 \def\HyRef@StripStar#1*\#2\@nil#3{%
6537     \def\HyRef@name{#2}%
6538     \ifx\HyRef@name\HyRef@CaseStar
6539         \def\HyRef@name{#1}%
6540     \else
6541         \def\HyRef@name{#3}%
6542     \fi
6543 }
6544 \def\HyRef@CaseStar{*\\}
6545 \def\HyRef@currentHtag{}

```

Support for package showkeys.

\HyRef@ShowKeysRef

```

6546 \let\HyRef@ShowKeysRef\@gobble
6547 \def\HyRef@ShowKeysInit{%
6548     \begingroup\expandafter\expandafter\expandafter\endgroup
6549     \expandafter\ifx\csname SK@@label\endcsname\relax
6550     \else
6551         \ifx\SK@ref\@empty
6552         \else
6553             \def\HyRef@ShowKeysRef{%
6554                 \SK@\SK@@ref
6555             }%
6556         \fi
6557     \fi
6558 }
6559 \@ifpackageloaded{showkeys}{%
6560     \HyRef@ShowKeysInit
6561 }{%
6562     \AtBeginDocument{%
6563         \@ifpackageloaded{showkeys}{%
6564             \HyRef@ShowKeysInit
6565         }{%
6566         }%
6567     }

```

Defaults for the names that `\autoref` uses.

```

6568 \providecommand*{\AMSautorefname}{\equationautorefname}
6569 \providecommand*{\Hfootnoteautorefname}{\footnoteautorefname}
6570 \providecommand*{\Itemautorefname}{\itemautorefname}
6571 \providecommand*{\itemautorefname}{item}
6572 \providecommand*{\equationautorefname}{Equation}
6573 \providecommand*{\footnoteautorefname}{footnote}
6574 \providecommand*{\itemautorefname}{item}
6575 \providecommand*{\figureautorefname}{Figure}
6576 \providecommand*{\tableautorefname}{Table}
6577 \providecommand*{\partautorefname}{Part}
6578 \providecommand*{\appendixautorefname}{Appendix}
6579 \providecommand*{\chapterautorefname}{chapter}
6580 \providecommand*{\sectionautorefname}{section}
6581 \providecommand*{\subsectionautorefname}{subsection}
6582 \providecommand*{\subsubsectionautorefname}{subsubsection}
6583 \providecommand*{\paragraphautorefname}{paragraph}
6584 \providecommand*{\subparagraphautorefname}{subparagraph}
6585 \providecommand*{\FancyVerbLineautorefname}{line}
6586 \providecommand*{\theoremautorefname}{Theorem}
6587 \providecommand*{\pageautorefname}{page}
6588 \endpackage

```

46 Configuration files

46.1 PS/PDF strings

Some drivers write PS or PDF strings. These strings are delimited by parentheses, therefore a lonely unmatched parenthesis must be avoided to avoid PS or PDF syntax errors. Also the backslash character itself has to be protected.

`\Hy@pstringdef` Therefore such strings should be passed through `\Hy@pstringdef`. The first argument holds a macro for the result, the second argument is the string that needs protecting. Since version 1.30.0 pdf_T_EX offers `\pdfescapestring`.

```

6589 <*pdfTEX | dvipdfm | vtEX | pdfmarkbase | dviwindo>
6590 \RequirePackage{pdfTEXcmds}[2007/11/11]
6591 \begingroup\expandafter\expandafter\expandafter\endgroup
6592 \expandafter\ifx\csname pdfTEescapestring\endcsname\relax
6593   \begingroup
6594     \catcode'\|=0 %
6595     \@makeother\| %
6596     \@firstofone{\endgroup
6597       |def|Hy@pstringdef#1#2{%
6598         |begingroup
6599           |edef~{|string~}%
6600           |xdef|Hy@gtemp{#2}%
6601         |endgroup
6602         |let#1|Hy@gtemp
6603         |@onelevel@sanitize#1%
6604         |edef#1{|expandafter|Hy@ExchangeBackslash#1|@nil}%
6605         |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1|@nil}%
6606         |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1|@nil}%
6607       }%
6608       |def|Hy@ExchangeBackslash#1#2|@nil{%
6609         #1%

```

```

6610     |ifx|\#2|\%%
6611     |else
6612         \\\%
6613         |Hy@ReturnAfterFi{%
6614         |Hy@ExchangeBackslash#2|@nil
6615     }%
6616     |fi
6617 }%
6618 }%
6619 \def\Hy@ExchangeLeftParenthesis#1(#2@nil{%
6620     #1%
6621     \ifx\\#2\\%
6622     \else
6623         \@backslashchar(%
6624         \Hy@ReturnAfterFi{%
6625         \Hy@ExchangeLeftParenthesis#2@nil
6626     }%
6627     \fi
6628 }%
6629 \def\Hy@ExchangeRightParenthesis#1)#2@nil{%
6630     #1%
6631     \ifx\\#2\\%
6632     \else
6633         \@backslashchar)%
6634         \Hy@ReturnAfterFi{%
6635         \Hy@ExchangeRightParenthesis#2@nil
6636     }%
6637     \fi
6638 }%
6639 \else
6640 \def\Hy@pstringdef#1#2{%
6641     \begingroup
6642     \edef~{\string~}%
6643     \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
6644     \endgroup
6645     \let#1\Hy@gtemp
6646 }%
6647 \fi
6648 </pdfTeX | dvipdfm | vtex | pdfmarkbase | dviwindo>

```

46.2 pdfTeX

```
6649 <*pdfTeX>
```

This driver is for Han The Thanh's T_EX variant which produces PDF directly. This has new primitives to do PDF things, which usually translate almost directly to PDF code, so there is a lot of flexibility which we do not at present harness.

Set PDF version if requested by option `pdfversion`.

- pdfT_EX 1.10a, 2003-01-16: `\pdfoptionpdfminorversion`
- pdfT_EX 1.30, 2005-08-08: `\pdfminorversion`

```

6650 \let\Hy@pdfminorversion\relax
6651 \begingroup\expandafter\expandafter\expandafter\endgroup
6652 \expandafter\ifx\csname pdfminorversion\endcsname\relax
6653     \begingroup\expandafter\expandafter\expandafter\endgroup
6654     \expandafter\ifx\csname pdfoptionpdfminorversion\endcsname\relax
6655     \else

```

```

6656 \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
6657 \fi
6658 \else
6659 \def\Hy@pdfminorversion{\pdfminorversion}%
6660 \fi
6661 \@ifundefined{Hy@pdfminorversion}{%
6662 \PackageInfo{hyperref}{%
6663 PDF version is not set, because pdfTeX is too old (<1.10a)%
6664 }%
6665 }{%
6666 \ifHy@ocgcolorlinks
6667 \ifnum\Hy@pdfminorversion<5 %
6668 \setkeys{Hyp}{pdfversion=1.5}%
6669 \fi
6670 \fi
6671 \ifHy@setpdfversion
6672 \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
6673 \else
6674 \Hy@pdfminorversion=\Hy@pdfversion\relax
6675 \fi
6676 \PackageInfo{hyperref}{%
6677 \expandafter\string\Hy@pdfminorversion
6678 :=\number\Hy@pdfversion\space
6679 }%
6680 \fi
6681 \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
6682 }
6683 \Hy@DisableOption{pdfversion}%

6684 \ifHy@ocgcolorlinks
6685 \immediate\pdfobj{%
6686 <<%
6687 /Type/OCG%
6688 /Name(View)%
6689 /Usage<<%
6690 /Print<<%
6691 /PrintState/OFF%
6692 >>%
6693 /View<<%
6694 /ViewState/ON%
6695 >>%
6696 >>%
6697 >>%
6698 }%
6699 \edef\OBJ@OCG@view{\the\pdflastobj\space 0 R}%
6700 \immediate\pdfobj{%
6701 <<%
6702 /Type/OCG%
6703 /Name(Print)%
6704 /Usage<<%
6705 /Print<<%
6706 /PrintState/ON%
6707 >>%
6708 /View<<%
6709 /ViewState/OFF%
6710 >>%
6711 >>%
6712 >>%

```

```

6713 }%
6714 \edef\OBJ@OCG@print{\the\pdflastobj\space 0 R}%
6715 \immediate\pdfobj{%
6716   [%
6717     \OBJ@OCG@view\space\OBJ@OCG@print
6718   ]%
6719 }%
6720 \edef\OBJ@OCGs{\the\pdflastobj\space 0 R}%
6721 \pdfcatalog{%
6722   /OCProperties<<%
6723     /OCGs \OBJ@OCGs
6724   /D<<%
6725     /OFF[\OBJ@OCG@print]%
6726     /AS[%
6727       <<%
6728         /Event/View%
6729         /OCGs \OBJ@OCGs
6730         /Category[/View]%
6731       >>%
6732       <<%
6733         /Event/Print%
6734         /OCGs \OBJ@OCGs
6735         /Category[/Print]%
6736       >>%
6737       <<%
6738         /Event/Export%
6739         /OCGs \OBJ@OCGs
6740         /Category[/Print]%
6741       >>%
6742     ]%
6743   >>%
6744 >>%
6745 }%
6746 \begingroup
6747   \edef\x{\endgroup
6748     \pdfpageresources{%
6749       /Properties<<%
6750         /OCView \OBJ@OCG@view
6751         /OCPrint \OBJ@OCG@print
6752       >>%
6753     }%
6754   }%
6755 \x
6756 \AtBeginDocument{%
6757   \def\Hy@colorlink#1{%
6758     \begingroup
6759       \ifHy@ocgcolorlinks
6760         \def\Hy@ocgcolor{#1}%
6761         \setbox0=\color@hbox
6762       \else
6763         \HyColor@UseColor#1%
6764       \fi
6765     }%
6766   \def\Hy@endcolorlink{%
6767     \ifHy@ocgcolorlinks
6768       \color@endbox
6769     \mbox{%

```

```

6770      \pdfliteral page{/OC/OCPrint BDC}%
6771      \rlap{\copy0}%
6772      \pdfliteral page{EMC/OC/OCView BDC}%
6773      \begingroup
6774      \expandafter\HyColor@UseColor\Hy@ocgcolor
6775      \box0 %
6776      \endgroup
6777      \pdfliteral page{EMC}%
6778      }%
6779      \fi
6780      \endgroup
6781      }%
6782      }%
6783 \else
6784   \Hy@DisableOption{ocgcolorlinks}%
6785 \fi

```

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

```

6786 \def\setpdflinkmargin#1{\pdflinkmargin#1}
6787 \ifx\pdfstartlink\undefined% less than version 14
6788   \let\pdfstartlink\pdfannotlink
6789   \let\pdflinkmargin\@tempdima
6790   \let\pdfxform\pdfform
6791   \let\pdflastxform\pdflastform
6792   \let\pdfrefxform\pdfrefform
6793 \else
6794   \pdflinkmargin1pt %
6795 \fi

```

First set up the default linking

```

6796 \providecommand*\pdfview{XYZ}

```

First define the anchors:

```

6797 \def\new@pdflink#1{%
6798   \ifHy@verbose
6799     \typeout{pdftex: define anchor at line \the\inputlineno: #1}%
6800   \fi
6801   \Hy@SaveLastskip
6802   \Hy@pstringdef\Hy@pstringDest{#1}%
6803   \Hy@DestName\Hy@pstringDest\pdfview
6804   \Hy@RestoreLastskip
6805 }
6806 \let\pdf@endanchor\@empty

```

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

```

6807 \def\Hy@DestName#1#2{%
6808   \pdfdest name{#1}#2\relax
6809 }

```

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.

```

6810 \providecommand*\pdfborder{0 0 1}
6811 \providecommand*\pdfborderstyle{}
6812 \def\Hy@undefinedname{UNDEFINED}
6813 \def\find@pdflink#1#2{%

```

```

6814 \leavevmode
6815 \protected@edef\Hy@testname{#2}%
6816 \ifx\Hy@testname\@empty
6817   \let\Hy@testname\Hy@undefinedname
6818 \else
6819   \Hy@pstringdef\Hy@testname\Hy@testname
6820 \fi
6821 \Hy@StartlinkName{%
6822   \ifHy@pdfa /F 4\fi
6823   \Hy@setpdfborder
6824   \ifx\@pdfhighlight\@empty
6825   \else
6826     /H\@pdfhighlight
6827   \fi
6828   \ifx\CurrentBorderColor\relax
6829   \else
6830     /C[\CurrentBorderColor]%
6831   \fi
6832 } \Hy@testname
6833 \expandafter\Hy@colorlink\csname @#1color\endcsname
6834 }
6835 \def\Hy@StartlinkName#1#2{%
6836   \pdfstartlink attr{#1}goto name{#2}\relax
6837 }
6838 \def\close@pdflink{\Hy@endcolorlink\pdfendlink}
6839 \def\hyper@anchor#1{\new@pdflink{#1}\anchor@spot\pdf@endanchor}
6840 \def\hyper@anchorstart#1{\new@pdflink{#1}\Hy@activeanchortrue}
6841 \def\hyper@anchorend{\pdf@endanchor\Hy@activeanchorfalse}
6842 \def\hyper@linkstart#1#2{%
6843   \@ifundefined{@#1bordercolor}{%
6844     \let\CurrentBorderColor\relax
6845   }{%
6846     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
6847   }%
6848   \find@pdflink{#1}{#2}%
6849 }
6850 \def\hyper@linkend{\close@pdflink}
6851 \def\hyper@link#1#2#3{%
6852   \@ifundefined{@#1bordercolor}{%
6853     \let\CurrentBorderColor\relax
6854   }{%
6855     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
6856   }%
6857   \find@pdflink{#1}{#2}#3%
6858   \close@pdflink
6859 }
6860 \let\CurrentBorderColor\@linkbordercolor
6861 \def\hyper@linkurl#1#2{%
6862   \beginngroup
6863     \Hy@pstringdef\Hy@pstringURI{#2}%
6864     \hyper@chars
6865     \leavevmode
6866     \pdfstartlink
6867     attr{%
6868       \Hy@setpdfborder
6869       \ifx\@pdfhighlight\@empty
6870       \else

```

```

6871         /H\@pdfhighlight
6872     \fi
6873     \ifx\@urlbordercolor\relax
6874     \else
6875         /C[\@urlbordercolor]%
6876     \fi
6877 }%
6878 user{%
6879     /Subtype/Link%
6880     \ifHy@pdfa /F 4\fi
6881     /A<<%
6882     /Type/Action%
6883     /S/URI%
6884     /URI(\Hy@pstringURI)%
6885     >>%
6886 }%
6887 \relax
6888 \Hy@colorlink\@urlcolor#1%
6889 \close@pdflink
6890 \endgroup
6891 }
6892 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
6893     \begingroup
6894     \Hy@pstringdef\Hy@pstringF{#2}%
6895     \Hy@pstringdef\Hy@pstringD{#3}%
6896     \leavevmode
6897     \pdfstartlink
6898     attr{%
6899         \Hy@setpdfborder
6900         \ifx\@pdfhighlight\@empty
6901         \else
6902             /H\@pdfhighlight
6903         \fi
6904         \ifx\@filebordercolor\relax
6905         \else
6906             /C[\@filebordercolor]%
6907         \fi
6908     }%
6909     user {%
6910         /Subtype/Link%
6911         \ifHy@pdfa /F 4\fi
6912         /A<<%
6913         /F(\Hy@pstringF)%
6914         /S/GoToR%
6915         \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}

```

```
6916         \ifx\@#3\%
```



```

6917         /D[0 \@pdfstartview]%
6918     \else
6919         /D(\Hy@pstringD)%
6920     \fi
6921     >>%
6922 }%
6923 \relax
6924 \Hy@colorlink\@filecolor#1%
6925 \close@pdflink
6926 \endgroup
6927 }
6928 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
6929 \begingroup
6930     \Hy@pstringdef\Hy@pstringF{#1}%
6931     \Hy@pstringdef\Hy@pstringP{#3}%
6932     \leavevmode
6933     \pdfstartlink
6934     attr{%
6935         \Hy@setpdfborder
6936         \ifx\@pdfhighlight\@empty
6937         \else
6938             /H\@pdfhighlight
6939         \fi
6940         \ifx\@runbordercolor\relax
6941         \else
6942             /C[\@runbordercolor]%
6943         \fi
6944     }%
6945     user {%
6946         /Subtype/Link%
6947         \ifHy@pdfa /F 4\fi
6948         /A<<%
6949             /F(\Hy@pstringF)%
6950             /S/Launch%
6951             \Hy@SetNewWindow
6952             \ifx\#3\%
6953             \else
6954                 /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
6955             \fi
6956         >>%
6957     }%
6958     \relax
6959     \Hy@colorlink\@runcolor#2%
6960     \close@pdflink
6961 \endgroup
6962 }

```

\@pdfproducer

```

6963 \ifx\@pdfproducer\relax
6964 \begingroup\expandafter\expandafter\expandafter\endgroup
6965 \expandafter\ifx\csname luatexversion\endcsname\relax
6966     \def\@pdfproducer{pdfTeX}%
6967     \ifx\@eTeXversion\@undefined
6968     \else
6969         \ifx\@eTeXversion\relax
6970         \else
6971             \ifnum\@eTeXversion>0 %

```

```

6972         \def\@pdfproducer{pdfTeX}%
6973     \fi
6974 \fi
6975 \fi
6976 \ifx\pdfTeXversion\undefined
6977 \else
6978     \ifnum\pdfTeXversion<100 %
6979         \edef\@pdfproducer{%
6980             \@pdfproducer
6981             \the\pdfTeXversion.\pdfTeXrevision
6982         }%
6983     \else
6984         \ifnum\pdfTeXversion<130 %
6985             \edef\@pdfproducer{%
6986                 \@pdfproducer-
6987                 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
6988                 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil
6989                 \pdfTeXrevision
6990             }%
6991         \else
6992             \ifnum\pdfTeXversion<140 %
6993             \else
6994                 \def\@pdfproducer{pdfTeX}%
6995             \fi
6996             \edef\@pdfproducer{%
6997                 \@pdfproducer-
6998                 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
6999                 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
7000                 \pdfTeXrevision
7001             }%
7002             \fi
7003         \fi
7004     \fi
7005 \else
7006     \begingroup
7007         \count@=\luatexversion
7008         \divide\count@ by 100 %
7009         \edef\x{\the\count@}%
7010         \count@=-\x\relax
7011         \multiply\count@ by 100 %
7012         \advance\count@ by \luatexversion
7013         \edef\x{\endgroup
7014             \def\noexpand\@pdfproducer{%
7015                 LuaTeX-\x.\the\count@.\luatexrevision
7016             }%
7017         }%
7018     \x
7019 \fi
7020 \fi

```

\PDF@SetupDox

```

7021 \def\PDF@SetupDoc{%
7022     \ifx\@pdfpagescrop\@empty
7023     \else
7024         \edef\process@me{%
7025             \pdfpagesattr={%
7026                 /CropBox[\@pdfpagescrop]%

```

```

7027         \expandafter\ifx\expandafter\\the\pdfpagesattr\\%
7028         \else
7029             ^^J\the\pdfpagesattr
7030         \fi
7031     }%
7032 }%
7033 \process@me
7034 \fi
7035 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
7036 \pdfcatalog{%
7037     /PageMode/\@pdfpagemode
7038     \ifx\@baseurl\@empty
7039     \else
7040         /URI<</Base(\Hy@pstringB)>>%
7041     \fi
7042 }%
7043 \ifx\@pdfstartpage\@empty
7044 \else
7045     \ifx\@pdfstartview\@empty
7046     \else
7047         openaction goto page\@pdfstartpage{\@pdfstartview}%
7048     \fi
7049 \fi
7050 \edef\Hy@temp{%
7051     \ifHy@toolbar\else /HideToolbar true\fi
7052     \ifHy@menubar\else /HideMenubar true\fi
7053     \ifHy@windowui\else /HideWindowUI true\fi
7054     \ifHy@fitwindow /FitWindow true\fi
7055     \ifHy@centerwindow /CenterWindow true\fi
7056     \ifHy@displaydoctitle /DisplayDocTitle true\fi
7057     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
7058     \Hy@UseNameKey{Direction}\@pdfdirection
7059     \Hy@UseNameKey{ViewArea}\@pdfviewarea
7060     \Hy@UseNameKey{ViewClip}\@pdfviewclip
7061     \Hy@UseNameKey{PrintArea}\@pdfprintarea
7062     \Hy@UseNameKey{PrintClip}\@pdfprintclip
7063     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
7064     \Hy@UseNameKey{Duplex}\@pdfduplex
7065     \ifx\@pdfpicktraybypdfsize\@empty
7066     \else
7067         /PickTrayByPDFSize \@pdfpicktraybypdfsize
7068     \fi
7069     \ifx\@pdfprintpagerange\@empty
7070     \else
7071         /PrintPageRange[\@pdfprintpagerange]%
7072     \fi
7073     \ifx\@pdfnumcopies\@empty
7074     \else
7075         /NumCopies \@pdfnumcopies
7076     \fi
7077 }%
7078 \pdfcatalog{%
7079     \ifx\Hy@temp\@empty
7080     \else
7081         /ViewerPreferences<<\Hy@temp>>%
7082     \fi
7083     \Hy@UseNameKey{PageLayout}\@pdfpagelayout

```

```

7084 \ifx\@pdflang\@empty
7085 \else
7086 /Lang(\@pdflang)%
7087 \fi
7088 }%
7089 }

```

\PDF@FinishDoc

```

7090 \def\PDF@FinishDoc{%
7091 \Hy@UseMaketitleInfos
7092 \pdfinfo{%
7093 /Author(\@pdfauthor)%
7094 /Title(\@pdftitle)%
7095 /Subject(\@pdfsubject)%
7096 /Creator(\@pdfcreator)%
7097 \ifx\@pdfcreationdate\@empty
7098 \else
7099 /CreationDate(\@pdfcreationdate)%
7100 \fi
7101 \ifx\@pdfmoddate\@empty
7102 \else
7103 /ModDate(\@pdfmoddate)%
7104 \fi
7105 \ifx\@pdfproducer\relax
7106 \else
7107 /Producer(\@pdfproducer)%
7108 \fi
7109 /Keywords(\@pdfkeywords)%
7110 }%
7111 \Hy@DisableOption{pdfauthor}%
7112 \Hy@DisableOption{pdftitle}%
7113 \Hy@DisableOption{pdfsubject}%
7114 \Hy@DisableOption{pdfcreator}%
7115 \Hy@DisableOption{pdfcreationdate}%
7116 \Hy@DisableOption{pdfmoddate}%
7117 \Hy@DisableOption{pdfproducer}%
7118 \Hy@DisableOption{pdfkeywords}%
7119 }

```

\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.

```

7120 \def\hyper@pagetransition{%
7121 \ifx\@pdfpagetransition\relax
7122 \else
7123 \expandafter\Hy@RemoveTransPageAttr
7124 \the\pdfpageattr^^J/Trans{}}>>\END
7125 \ifx\@pdfpagetransition\@empty
7126 \else
7127 \edef\@processme{%
7128 \global\pdfpageattr{%
7129 \the\pdfpageattr
7130 ^^J/Trans << /S /\@pdfpagetransition\space >>%
7131 }%
7132 }%
7133 \@processme
7134 \fi

```

```

7135 \fi
7136 }

```

\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.

```

7137 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>>#4\END{%
7138   \ifx\#2\%
7139     \global\pdfpageattr{#1}%
7140   \else
7141     \Hy@RemoveTransPageAttr#1#4\END
7142   \fi
7143 }

```

\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`.

```

7144 \def\hyper@pageduration{%
7145   \ifx\@pdfpageduration\relax
7146   \else
7147     \expandafter\Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{} \END
7148     \ifx\@pdfpageduration\@empty
7149     \else
7150       \edef\@processme{%
7151         \global\pdfpageattr{%
7152           \the\pdfpageattr
7153           ^^J/Dur \@pdfpageduration\space
7154         }%
7155       }%
7156       \@processme
7157     \fi
7158   \fi
7159 }

```

\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.

```

7160 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
7161   \ifx\#2\%
7162     \global\pdfpageattr{#1}%
7163   \else
7164     \Hy@RemoveDurPageAttr#1#4\END
7165   \fi
7166 }

```

\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).

```

7167 \def\hyper@pagehidden{%
7168   \ifHy@useHidKey
7169     \expandafter\Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END
7170     \ifHy@pdfpagehidden
7171     \edef\@processme{%
7172       \global\pdfpageattr{%

```

```

7173         \the\pdfpageattr
7174         ^^J/Hid true % SPACE
7175     }%
7176 }%
7177 \processme
7178 \fi
7179 \fi
7180 }

```

`\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.

```

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

```

```

7188 \g@addto@macro\Hy@EveryPageHook{%
7189   \hyper@pagetransition
7190   \hyper@pageduration
7191   \hyper@pagehidden
7192 }

```

Let us explicitly turn on PDF generation; they can reverse this decision in the document, but since we are emitting PDF links anyway, we *must* be in PDF mode.

```

7193 \pdfoutput=1
7194 \pdfcompresslevel=9
7195 \AtBeginDocument{%
7196   \ifHy@setpagesize
7197     \expandafter\@firstofone
7198   \else
7199     \expandafter\@gobble
7200   \fi
7201 }%
7202 \@ifclassloaded{seminar}{%
7203   \setlength{\pdfhorigin}{1truein}%
7204   \setlength{\pdfvorigin}{1truein}%
7205   \ifportrait
7206     \ifdim\paperwidth=\z@
7207     \else
7208       \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
7209     \fi
7210     \ifdim\paperheight=\z@
7211     \else
7212       \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
7213     \fi
7214   \else
7215     \ifdim\paperheight=\z@
7216     \else
7217       \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
7218     \fi
7219     \ifdim\paperwidth=\z@
7220     \else
7221       \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%

```

```

7222     \fi
7223     \fi
7224   }{%
7225     \@ifundefined{stockwidth}{%
7226       \ifdim\paperwidth=\z@
7227       \else
7228         \setlength{\pdfpagewidth}{\paperwidth}%
7229       \fi
7230       \ifdim\paperheight=\z@
7231       \else
7232         \setlength{\pdfpageheight}{\paperheight}%
7233       \fi
7234     }{%
7235       \ifdim\stockwidth=\z@
7236       \else
7237         \setlength{\pdfpagewidth}{\stockwidth}%
7238       \fi
7239       \ifdim\stockheight=\z@
7240       \else
7241         \setlength{\pdfpageheight}{\stockheight}%
7242       \fi
7243     }%
7244   }%
7245 }%
7246 \Hy@DisableOption{setpagesize}%
7247 }
7248 \def\Acrobatmenu#1#2{%
7249   \Hy@Acrobatmenu{#1}{#2}{%
7250     \pdfstartlink
7251     attr{%
7252       \Hy@setpdfborder
7253       \ifx\@pdfhighlight\@empty
7254       \else
7255         /H\@pdfhighlight
7256       \fi
7257       \ifx\@menubordercolor\relax
7258       \else
7259         /C[\@menubordercolor]%
7260       \fi
7261     }%
7262     user{%
7263       /Subtype/Link%
7264       \ifHy@pdfa /F 4\fi
7265       /A<<%
7266         /S/Named/N/#1%
7267       >>%
7268     }%
7269     \relax
7270     \Hy@colorlink\@menucolor#2%
7271     \close@pdflink
7272   }%
7273 }
7274 </pdftex>
7275 <*hypertex>

```

46.3 hypertext

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.

```
7276 \def\PDF@FinishDoc{}
7277 \def\PDF@SetupDoc{%
7278   \ifx\@baseurl\@empty
7279   \else
7280     \special{html:<base href="\@baseurl">}%
7281   \fi
7282 }
7283 \def\hyper@anchor#1{%
7284   \Hy@SaveLastskip
7285   \begingroup
7286     \let\protect=\string
7287     \hyper@chars
7288     \special{html:<a name=\hyper@quote #1\hyper@quote>}%
7289   \endgroup
7290   \Hy@activeanchortrue
7291   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
7292   \special{html:</a>}%
7293   \Hy@activeanchorfalse
7294   \Hy@RestoreLastskip
7295 }
7296 \def\hyper@anchorstart#1{%
7297   \Hy@SaveLastskip
7298   \begingroup
7299     \hyper@chars
```



```

7300 \special{html:<a name=\hyper@quote#1\hyper@quote>}%
7301 \endgroup
7302 \Hy@activeanchortrue
7303 }
7304 \def\hyper@anchorend{%
7305 \special{html:</a>}%
7306 \Hy@activeanchorfalse
7307 \Hy@RestoreLastskip
7308 }
7309 \def\@urlltype{url}
7310 \def\hyper@linkstart#1#2{%
7311 \expandafter\Hy@colorlink\csname @#1color\endcsname
7312 \def\Hy@tempa{#1}%
7313 \ifx\Hy@tempa\@urlltype
7314 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
7315 \else
7316 \begingroup
7317 \hyper@chars
7318 \special{html:<a href=\hyper@quote\##2\hyper@quote>}%
7319 \endgroup
7320 \fi
7321 }
7322 \def\hyper@linkend{%
7323 \special{html:</a>}%
7324 \Hy@endcolorlink
7325 }
7326 \def\hyper@linkfile#1#2#3{%
7327 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\#3\\\else\##3\fi}%
7328 }
7329 \def\hyper@linkurl#1#2{%

```

If we want to raise up the final link `\special`, we need to get its height; ask me why L^AT_EX constructs make this totally foul up, and make us revert to basic T_EX. I do not know.

```

7330 \leavevmode
7331 \ifHy@raiselinks
7332 \setbox\@tempboxa=\color@hbox #1\color@endbox
7333 \@linkdim\dp\@tempboxa
7334 \lower\@linkdim\hbox{%
7335 \hyper@chars
7336 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
7337 }%
7338 \Hy@colorlink\@urlcolor#1%
7339 \@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).

```

7340 \advance\@linkdim by -6.5\p@
7341 \raise\@linkdim\hbox{\special{html:</a>}}%
7342 \Hy@endcolorlink
7343 \else
7344 \begingroup
7345 \hyper@chars
7346 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
7347 \Hy@colorlink\@urlcolor#1%
7348 \special{html:</a>}%
7349 \Hy@endcolorlink

```

```

7350 \endgroup
7351 \fi
7352 }
7353 \def\hyper@link#1#2#3{%
7354 \hyper@linkurl{#3}{\##2}%
7355 }

7356 \def\hyper@image#1#2{%
7357 \beginingroup
7358 \hyper@chars
7359 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
7360 \endgroup
7361 }
7362 \</hypertex>
7363 \<*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, L^AT_EX 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.

```

7364 \providecommand* \wwwbrowser{c:\string\netscape\string\netscape}
7365 \def\hyper@anchor#1{%
7366 \Hy@SaveLastskip
7367 \beginingroup
7368 \let\protect=\string
7369 \special{mark: #1}%
7370 \endgroup
7371 \Hy@activeanchortrue
7372 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
7373 \Hy@activeanchorfalse
7374 \Hy@RestoreLastskip
7375 }
7376 \def\hyper@anchorstart#1{%
7377 \Hy@SaveLastskip
7378 \special{mark: #1}%
7379 \Hy@activeanchortrue
7380 }
7381 \def\hyper@anchorend{%
7382 \Hy@activeanchorfalse
7383 \Hy@RestoreLastskip
7384 }
7385 \def\hyper@linkstart#1#2{%
7386 \expandafter\Hy@colorlink\csize @#1color\endcsize
7387 \special{button: %
7388 10000000 %
7389 \number\baselineskip\space
7390 #2%
7391 }%
7392 }

```

```

7393 \def\hyper@linkend{%
7394   \Hy@endcolorlink
7395 }
7396 \def\hyper@link#1#2#3{%
7397   \setbox\@tempboxa=\color@hbox #3\color@endbox
7398   \leavevmode
7399   \ifHy@raiselinks
7400     \@linkdim\dp\@tempboxa
7401     \lower\@linkdim\hbox{%
7402       \special{button: %
7403         \number\wd\@tempboxa\space
7404         \number\ht\@tempboxa\space
7405         #2%
7406       }%
7407     \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
7408     \Hy@endcolorlink
7409   }%
7410   \@linkdim\ht\@tempboxa
7411   \advance\@linkdim by -6.5\p@
7412   \raise\@linkdim\hbox{}%
7413 \else
7414   \special{button: %
7415     \number\wd\@tempboxa\space
7416     \number\ht\@tempboxa\space
7417     #2%
7418   }%
7419   \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
7420   \Hy@endcolorlink
7421 \fi
7422 }
7423 \def\hyper@linkurl#1#2{%
7424   \begingroup
7425   \hyper@chars
7426   \leavevmode
7427   \setbox\@tempboxa=\color@hbox #1\color@endbox
7428   \ifHy@raiselinks
7429     \@linkdim\dp\@tempboxa
7430     \lower\@linkdim\hbox{%
7431       \special{button: %
7432         \number\wd\@tempboxa\space
7433         \number\ht\@tempboxa\space
7434         launch: \wwwbrowser\space
7435         #2%
7436       }%
7437     \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
7438   }%
7439   \@linkdim\ht\@tempboxa
7440   \advance\@linkdim by -6.5\p@
7441   \raise\@linkdim\hbox{}%
7442 \else
7443   \special{button: %
7444     \number\wd\@tempboxa\space
7445     \number\ht\@tempboxa\space
7446     launch: \wwwbrowser\space
7447     #2%
7448   }%
7449   \Hy@colorlink\@urlcolor#1\Hy@endcolorlink

```

```

7450 \fi
7451 \endgroup
7452 }
7453 \def\hyper@linkfile#1#2#3{%
7454 \begingroup
7455 \hyper@chars
7456 \leavevmode
7457 \setbox\@tempboxa=\color@hbox #1\color@endbox
7458 \ifHy@raiselinks
7459 \@linkdim\dp\@tempboxa
7460 \lower\@linkdim\hbox{%
7461 \special{button: %
7462 \number\wd\@tempboxa\space
7463 \number\ht\@tempboxa\space
7464 #3,%
7465 file: #2%
7466 }%
7467 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
7468 }%
7469 \@linkdim\ht\@tempboxa
7470 \advance\@linkdim by -6.5\p@
7471 \raise\@linkdim\hbox{}}%
7472 \else
7473 \special{button: %
7474 \number\wd\@tempboxa\space
7475 \number\ht\@tempboxa\space
7476 #3,%
7477 file: #2%
7478 }%
7479 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
7480 \fi
7481 \endgroup
7482 }
7483 \ifx\@pdfproducer\relax
7484 \def\@pdfproducer{dviwindo + Distiller}%
7485 \fi
7486 \def\PDF@FinishDoc{%
7487 \Hy@UseMaketitleInfos
7488 \special{PDF: Keywords \@pdfkeywords}%
7489 \special{PDF: Title \@pdftitle}%
7490 \special{PDF: Creator \@pdfcreator}%
7491 \ifx\@pdfcreationdate\@empty
7492 \else
7493 \special{PDF: CreationDate \@pdfcreationdate}%
7494 \fi
7495 \ifx\@pdfmoddate\@empty
7496 \else
7497 \special{PDF: ModDate \@pdfmoddate}%
7498 \fi
7499 \special{PDF: Author \@pdfauthor}%
7500 \ifx\@pdfproducer\relax
7501 \else
7502 \special{PDF: Producer \@pdfproducer}%
7503 \fi
7504 \special{PDF: Subject \@pdfsubject}%
7505 \Hy@DisableOption{pdfauthor}%
7506 \Hy@DisableOption{pdftitle}%

```

```

7507 \Hy@DisableOption{pdfsubject}%
7508 \Hy@DisableOption{pdfcreator}%
7509 \Hy@DisableOption{pdfcreationdate}%
7510 \Hy@DisableOption{pdfmoddate}%
7511 \Hy@DisableOption{pdfproducer}%
7512 \Hy@DisableOption{pdfkeywords}%
7513 }
7514 \def\PDF@SetupDoc{%
7515 \ifx\@baseurl\@empty
7516 \else
7517 \special{PDF: Base \@baseurl}%
7518 \fi
7519 \ifx\@pdfpagescrop\@empty\else
7520 \special{PDF: BBox \@pdfpagescrop}%
7521 \fi
7522 \def\Hy@temp{%
7523 \ifx\@pdfstartpage\@empty
7524 \else
7525 \ifx\@pdfstartview\@empty
7526 \else
7527 \edef\Hy@temp{%
7528 ,Page=\@pdfstartpage
7529 ,View=\@pdfstartview
7530 }%
7531 \fi
7532 \fi
7533 \edef\Hy@temp{%
7534 \noexpand\pdfmark{%
7535 pdfmark=/DOCVIEW,%
7536 PageMode=/\@pdfpagemode
7537 \Hy@temp
7538 }%
7539 }%
7540 \Hy@temp
7541 \ifx\@pdfpagescrop\@empty
7542 \else
7543 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
7544 \fi
7545 \edef\Hy@temp{%
7546 \ifHy@toolbar\else /HideToolbar true\fi
7547 \ifHy@menubar\else /HideMenubar true\fi
7548 \ifHy@windowui\else /HideWindowUI true\fi
7549 \ifHy@fitwindow /FitWindow true\fi
7550 \ifHy@centerwindow /CenterWindow true\fi
7551 \ifHy@displaydoctitle /DisplayDocTitle true\fi
7552 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
7553 \Hy@UseNameKey{Direction}\@pdfdirection
7554 \Hy@UseNameKey{ViewArea}\@pdfviewarea
7555 \Hy@UseNameKey{ViewClip}\@pdfviewclip
7556 \Hy@UseNameKey{PrintArea}\@pdfprintarea
7557 \Hy@UseNameKey{PrintClip}\@pdfprintclip
7558 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
7559 \Hy@UseNameKey{Duplex}\@pdfduplex
7560 \ifx\@pdfpicktraybypdfsize\@empty
7561 \else
7562 /PickTrayByPDFSize \@pdfpicktraybypdfsize
7563 \fi

```

```

7564 \ifx\@pdfprintpagerange\@empty
7565 \else
7566 /PrintPageRange[\@pdfprintpagerange]%
7567 \fi
7568 \ifx\@pdfnumcopies\@empty
7569 \else
7570 /NumCopies \@pdfnumcopies
7571 \fi
7572 }%
7573 \pdfmark{pdfmark=/PUT,%
7574 Raw={%
7575 \string{Catalog\string}<<%
7576 \ifx\Hy@temp\@empty
7577 \else
7578 /ViewerPreferences<<\Hy@temp>>%
7579 \fi
7580 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
7581 \ifx\@pdflang\@empty
7582 \else
7583 /Lang(\@pdflang)%
7584 \fi
7585 >>%
7586 }%
7587 }%
7588 }
7589 </dviwindo>
7590 <*dvipdfm>

```

46.5 dvipdfm dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```

7591 \newsavebox{\pdfm@box}
7592 \def\@pdfm@mark#1{\special{pdf:#1}}
7593 \def\@pdfm@dest#1{%
7594 \Hy@SaveLastskip
7595 \begingroup
7596 \Hy@pstringdef\Hy@pstringDest{#1}%
7597 \def\x{XYZ}%
7598 \ifx\x\@pdfview
7599 \def\x{XYZ @xpos @ypos null}%
7600 \else
7601 \def\x{FitH}%
7602 \ifx\x\@pdfview
7603 \def\x{FitH @ypos}%
7604 \else
7605 \def\x{FitBH}%
7606 \ifx\x\@pdfview
7607 \def\x{FitBH @ypos}%
7608 \else
7609 \def\x{FitV}%
7610 \ifx\x\@pdfview
7611 \def\x{FitV @xpos}%
7612 \else
7613 \def\x{FitBV}%
7614 \ifx\x\@pdfview
7615 \def\x{FitBV @xpos}%
7616 \else

```

```

7617         \def\x{Fit}%
7618         \ifx\x\@pdfview
7619             \let\x\@pdfview
7620         \else
7621             \def\x{FitB}%
7622             \ifx\x\@pdfview
7623                 \let\x\@pdfview
7624             \else
7625                 \def\x{FitR}%
7626                 \ifx\x\@pdfview
7627                     \Hy@Warning{'pdfview=FitR' is not supported}%
7628                     \def\x{XYZ @xpos @ypos null}%
7629                 \else
7630                     \@onelevel@sanitize\@pdfview
7631                     \Hy@Warning{Unknown value '\@pdfview' for pdfview}%
7632                     \def\x{XYZ @xpos @ypos null}%
7633                 \fi
7634             \fi
7635         \fi
7636     \fi
7637 \fi
7638 \fi
7639 \fi
7640 \fi
7641 \pdfmark{dest (\Hy@pstringDest) [@thispage /\x]}%
7642 \endgroup
7643 \Hy@RestoreLastskip
7644 }
7645 \providecommand*\@pdfview{XYZ}
7646 \providecommand*\@pdfborder{0 0 1}
7647 \providecommand*\@pdfborderstyle{}
7648 \def\hyper@anchor#1{%
7649     \@pdfmark{dest{#1}}%
7650 }
7651 \def\hyper@anchorstart#1{%
7652     \Hy@activeanchortrue
7653     \@pdfmark{dest{#1}}%
7654 }
7655 \def\hyper@anchorend{%
7656     \Hy@activeanchorfalse
7657 }
7658 \ifHy@ocgcolorlinks
7659     \def\OBJ@OCG@view{@OCG@view}%
7660     \@pdfmark{%
7661         obj \OBJ@OCG@view <<%
7662         /Type/OCG%
7663         /Name(View)%
7664         /Usage<<%
7665         /Print<<%
7666         /PrintState/OFF%
7667         >>%
7668         /View<<%
7669         /ViewState/ON%
7670         >>%
7671         >>%
7672         >>%
7673     }%

```

```

7674 \@pdfm@mark{close \OBJ@OCG@view}%
7675 \def\OBJ@OCG@print{@OCG@print}%
7676 \@pdfm@mark{%
7677     obj \OBJ@OCG@print <<%
7678     /Type/OCG%
7679     /Name(Print)%
7680     /Usage<<%
7681     /Print<<%
7682     /PrintState/ON%
7683     >>%
7684     /View<<%
7685     /ViewState/OFF%
7686     >>%
7687     >>%
7688     >>%
7689 }%
7690 \@pdfm@mark{close \OBJ@OCG@print}%
7691 \def\OBJ@OCGs{@OCGs}%
7692 \@pdfm@mark{%
7693     obj \OBJ@OCGs [%
7694         \OBJ@OCG@view\space\OBJ@OCG@print
7695     ]%
7696 }%
7697 \@pdfm@mark{close \OBJ@OCGs}%
7698 \@pdfm@mark{%
7699     put @catalog <<%
7700     /OCProperties<<%
7701     /OCGs \OBJ@OCGs
7702     /D<<%
7703     /OFF[\OBJ@OCG@print]%
7704     /AS[%
7705         <<%
7706         /Event/View%
7707         /OCGs \OBJ@OCGs
7708         /Category[/View]%
7709         >>%
7710         <<%
7711         /Event/Print%
7712         /OCGs \OBJ@OCGs
7713         /Category[/Print]%
7714         >>%
7715         <<%
7716         /Event/Export%
7717         /OCGs \OBJ@OCGs
7718         /Category[/Print]%
7719         >>%
7720     ]%
7721     >>%
7722     >>%
7723     >>%
7724 }%
7725 \@pdfm@mark{%
7726     put @resources <<%
7727     /Properties<<%
7728     /OCView \OBJ@OCG@view
7729     /OCPrint \OBJ@OCG@print
7730     >>%

```



```

7731     >>%
7732 }%
7733 \AtBeginDocument{%
7734   \def\Hy@colorlink#1{%
7735     \begingroup
7736     \ifHy@ocgcolorlinks
7737       \def\Hy@ocgcolor{#1}%
7738       \setbox0=\color@hbox
7739     \else
7740       \HyColor@UseColor#1%
7741     \fi
7742 }%
7743 \def\Hy@endcolorlink{%
7744   \ifHy@ocgcolorlinks
7745     \color@endbox
7746     \mbox{%
7747       \@pdfm@mark{content /OC/OCPrint BDC}%
7748       \rlap{\copy0}%
7749       \@pdfm@mark{content EMC/OC/OCView BDC}%
7750     \begingroup
7751       \expandafter\HyColor@UseColor\Hy@ocgcolor
7752       \box0 %
7753     \endgroup
7754     \@pdfm@mark{content EMC}%
7755   }%
7756   \fi
7757 \endgroup
7758 }%
7759 }%
7760 \else
7761   \Hy@DisableOption{ocgcolorlinks}%
7762 \fi

7763 \def\Hy@undefinedname{UNDEFINED}
7764 \def\hyper@linkstart#1#2{%
7765   \protected@edef\Hy@testname{#2}%
7766   \ifx\Hy@testname\@empty
7767     \let\Hy@testname\Hy@undefinedname
7768   \else
7769     \Hy@pstringdef\Hy@testname\Hy@testname
7770   \fi
7771   \@pdfm@mark{%
7772     bann<<%
7773     /Type/Annot%
7774     /Subtype/Link%
7775     \ifHy@pdfa /F 4\fi
7776     \Hy@setpdfborder
7777     \expandafter\ifx\csname @#1bordercolor\endcsname\relax
7778     \else
7779       /C[\csname @#1bordercolor\endcsname]%
7780     \fi
7781     /A<<%
7782     /S/GoTo%
7783     /D(\Hy@testname)%
7784     >>%
7785     >>%
7786   }%
7787   \expandafter\Hy@colorlink\csname @#1color\endcsname

```

```

7788 }
7789 \def\hyper@linkend{%
7790   \Hy@endcolorlink
7791   \@pdfm@mark{eann}%
7792 }
7793 \def\hyper@link#1#2#3{%
7794   \hyper@linkstart{#1}{#2}#3\hyper@linkend
7795 }
7796 \def\hyper@linkfile#1#2#3{%
7797   \Hy@pstringdef\Hy@pstringF{#2}%
7798   \Hy@pstringdef\Hy@pstringD{#3}%
7799   \leavevmode
7800   \@pdfm@mark{%
7801     bann<<%
7802     /Type/Annot%
7803     /Subtype/Link%
7804     \ifHy@pdfa /F 4\fi
7805     \Hy@setpdfborder
7806     \ifx\@filebordercolor\relax
7807       \else
7808         /C[\@filebordercolor]%
7809       \fi
7810     /A<<%
7811     /S/GoToR%
7812     /F(\Hy@pstringF)%
7813     /D\ifx\@#3\@0 \@pdfstartview\else(\Hy@pstringD)\fi
7814     \Hy@SetNewWindow
7815     >>%
7816     >>%
7817   }%
7818   \Hy@colorlink\@filecolor#1\Hy@endcolorlink
7819   \@pdfm@mark{eann}%
7820 }
7821 \def\hyper@linkurl#1#2{%
7822   \Hy@pstringdef\Hy@pstringURI{#2}%
7823   \leavevmode
7824   \@pdfm@mark{%
7825     bann<<%
7826     /Type/Annot%
7827     /Subtype/Link%
7828     \ifHy@pdfa /F 4\fi
7829     \Hy@setpdfborder
7830     \ifx\@urlbordercolor\relax
7831       \else
7832         /C[\@urlbordercolor]%
7833       \fi
7834     /A<<%
7835     /S/URI%
7836     /URI(\Hy@pstringURI)%
7837     >>%
7838     >>%
7839   }%
7840   \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
7841   \@pdfm@mark{eann}%
7842 }
7843 \def\Acrobatmenu#1#2{%
7844   \Hy@Acrobatmenu{#1}{#2}{%

```

```

7845 \pdfmark{%
7846   bann<<%
7847     /Type/Annot%
7848     /Subtype/Link%
7849     \ifHy@pdfa /F 4\fi
7850     /A<<%
7851     /S/Named%
7852     /N/#1%
7853     >>%
7854     \Hy@setpdfborder
7855     \ifx\@menubordercolor\relax
7856     \relax
7857     /C[\@menubordercolor]%
7858     \fi
7859     >>%
7860   }%
7861   \Hy@colorlink\@menucolor#2\Hy@endcolorlink
7862   \pdfmark{eann}%
7863 }%
7864 }
7865 \ifx\@pdfproducer\relax
7866 \def\@pdfproducer{dvipdfm}%

```

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

```

7867 \begingroup\expandafter\expandafter\expandafter\endgroup
7868 \expandafter\ifx\csname XeTeXversion\endcsname\relax
7869 \else
7870 \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
7871 \fi
7872 \fi
7873 \def\PDF@FinishDoc{%
7874   \Hy@UseMaketitleInfos
7875   \@pdfmark{%
7876     docinfo<<%
7877       /Title(\@pdftitle)%
7878       /Subject(\@pdfsubject)%
7879       /Creator(\@pdfcreator)%
7880       \ifx\@pdfcreationdate\@empty
7881       \else
7882       /CreationDate(\@pdfcreationdate)%
7883       \fi
7884       \ifx\@pdfmoddate\@empty
7885       \else
7886       /ModDate(\@pdfmoddate)%
7887       \fi
7888       /Author(\@pdfauthor)%
7889       \ifx\@pdfproducer\relax
7890       \else
7891       /Producer(\@pdfproducer)%
7892       \fi
7893       /Keywords(\@pdfkeywords)%
7894     >>%
7895   }%
7896   \Hy@DisableOption{pdfauthor}%
7897   \Hy@DisableOption{pdftitle}%
7898   \Hy@DisableOption{pdfsubject}%
7899   \Hy@DisableOption{pdfcreator}%
7900   \Hy@DisableOption{pdfcreationdate}%

```

```

7901 \Hy@DisableOption{pdfmoddate}%
7902 \Hy@DisableOption{pdfproducer}%
7903 \Hy@DisableOption{pdfkeywords}%
7904 }

7905 \def\PDF@SetupDoc{%
7906 \edef\Hy@temp{%
7907 \ifHy@toolbar\else /HideToolbar true\fi
7908 \ifHy@menubar\else /HideMenubar true\fi
7909 \ifHy@windowui\else /HideWindowUI true\fi
7910 \ifHy@fitwindow /FitWindow true\fi
7911 \ifHy@centerwindow /CenterWindow true\fi
7912 \ifHy@displaydoctitle /DisplayDocTitle true\fi
7913 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
7914 \Hy@UseNameKey{Direction}\@pdfdirection
7915 \Hy@UseNameKey{ViewArea}\@pdfviewarea
7916 \Hy@UseNameKey{ViewClip}\@pdfviewclip
7917 \Hy@UseNameKey{PrintArea}\@pdfprintarea
7918 \Hy@UseNameKey{PrintClip}\@pdfprintclip
7919 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
7920 \Hy@UseNameKey{Duplex}\@pdfduplex
7921 \ifx\@pdfpicktraybypdfsize\@empty
7922 \else
7923 /PickTrayByPDFSize \@pdfpicktraybypdfsize
7924 \fi
7925 \ifx\@pdfprintpagerange\@empty
7926 \else
7927 /PrintPageRange[\@pdfprintpagerange]%
7928 \fi
7929 \ifx\@pdfnumcopies\@empty
7930 \else
7931 /NumCopies \@pdfnumcopies
7932 \fi
7933 }%
7934 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
7935 \@pdfm@mark{%
7936 docview<<%
7937 \ifx\@pdfstartpage\@empty
7938 \else
7939 \ifx\@pdfstartview\@empty
7940 \else
7941 /OpenAction[@page\@pdfstartpage\@pdfstartview]%
7942 \fi
7943 \fi
7944 \ifx\@baseurl\@empty
7945 \else
7946 /URI<</Base(\Hy@pstringB)>>%
7947 \fi
7948 /PageMode/\@pdfpagemode
7949 \ifx\Hy@temp\@empty
7950 \else
7951 /ViewerPreferences<<\Hy@temp>>%
7952 \fi
7953 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
7954 \ifx\@pdflang\@empty
7955 \else
7956 /Lang(\@pdflang)%
7957 \fi

```

```

7958    >>%
7959  }%
7960  \ifx\@pdfpagescrop\@empty
7961  \else
7962    \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%
7963  \fi
7964 }
7965 \</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.

```

7966 \< *vtexhtml>
7967 \RequirePackage{vtexhtml}
7968 \newif\if@Localurl
7969 \def\PDF@FinishDoc{}
7970 \def\PDF@SetupDoc{%
7971   \ifx\@baseurl\@empty
7972   \else
7973     \special{!direct <base href="\@baseurl">}%
7974   \fi
7975 }
7976 \def\@urltype{url}
7977 \def\hyper@link#1#2#3{%
7978   \leavevmode
7979   \special{!direct <a href=\hyper@quote\hyper@hash#2\hyper@quote>}%
7980   #3%
7981   \special{!direct </a>}%
7982 }
7983 \def\hyper@linkurl#1#2{%
7984   \begingroup
7985     \hyper@chars
7986     \leavevmode
7987     \MathBSuppress=1\relax
7988     \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
7989     #1%
7990     \MathBSuppress=0\relax
7991     \special{!direct </a>}%
7992   \endgroup
7993 }
7994 \def\hyper@linkfile#1#2#3{%
7995   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
7996 }
7997 \def\hyper@linkstart#1#2{%
7998   \def\Hy@tempa{#1}\ifx\Hy@tempa\@urltype
7999     \@Localurltrue
8000     \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
8001   \else
8002     \@Localurlfalse
8003     \begingroup
8004       \hyper@chars
8005       \special{!aref #2}%
8006     \endgroup
8007   \fi
8008 }
8009 \def\hyper@linkend{%

```

```

8010 \if@Localurl
8011 \special{!endaref}%
8012 \else
8013 \special{!direct </a>}%
8014 \fi
8015 }
8016 \def\hyper@anchorstart#1{%
8017 \Hy@SaveLastskip
8018 \begingroup
8019 \hyper@chars
8020 \special{!aname #1}%
8021 \special{!direct <a name=\hyper@quote#1\hyper@quote>}%
8022 \endgroup
8023 \Hy@activeanchortrue
8024 }
8025 \def\hyper@anchorend{%
8026 \special{!direct </a>}%
8027 \Hy@activeanchorfalse
8028 \Hy@RestoreLastskip
8029 }
8030 \def\hyper@anchor#1{%
8031 \Hy@SaveLastskip
8032 \begingroup
8033 \let\protect=\string
8034 \hyper@chars
8035 \leavevmode
8036 \special{!aname #1}%
8037 \special{!direct <a name=\hyper@quote #1\hyper@quote>}%
8038 \endgroup
8039 \Hy@activeanchortrue
8040 \bgroup\anchor@spot\egroup
8041 \special{!direct </a>}%
8042 \Hy@activeanchorfalse
8043 \Hy@RestoreLastskip
8044 }
8045 \def\@Form[#1]{\typeout{Sorry, TeXpider does not yet support FORMs}}
8046 \def\@EndForm{}
8047 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
8048 \typeout{Sorry, TeXpider does not yet support FORM gauges}%
8049 }
8050 \def\@TextField[#1]#2{% parameters, label
8051 \typeout{Sorry, TeXpider does not yet support FORM text fields}%
8052 }
8053 \def\@CheckBox[#1]#2{% parameters, label
8054 \typeout{Sorry, TeXpider does not yet support FORM checkboxes}%
8055 }
8056 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
8057 \typeout{Sorry, TeXpider does not yet support FORM choice menus}%
8058 }
8059 \def\@PushButton[#1]#2{% parameters, label
8060 \typeout{Sorry, TeXpider does not yet support FORM pushbuttons}%
8061 }
8062 \def\@Reset[#1]#2{%
8063 \typeout{Sorry, TeXpider does not yet support FORMs}%
8064 }
8065 \def\@Submit[#1]#2{%
8066 \typeout{Sorry, TeXpider does not yet support FORMs}%

```

```

8067 }
8068 </vtexhtml>
8069 <*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.

```

8070 \ifx\mediaheight\@undefined
8071 \else
8072   \ifx\mediaheight\relax
8073   \else
8074     \ifHy@setpagesize
8075       \providecommand*\VTeXInitMediaSize{%
8076         \ifundefined{stockwidth}{%
8077           \ifdim\paperheight>0pt %
8078             \setlength\mediaheight\paperheight
8079           \fi
8080           \ifdim\paperheight>0pt %
8081             \setlength\mediawidth\paperwidth
8082           \fi
8083         }{%
8084           \ifdim\stockheight>0pt %
8085             \setlength\mediaheight\stockheight
8086           \fi
8087           \ifdim\stockwidth>0pt %
8088             \setlength\mediawidth\stockwidth
8089           \fi
8090         }%
8091       }%
8092     \AtBeginDocument{\VTeXInitMediaSize}%
8093   \fi
8094   \Hy@DisableOption{setpagesize}%
8095 \fi
8096 \fi

```

Older versions of VTeX require xyz in lower case.

```

8097 \providecommand*\@pdfview{xyz}
8098 \providecommand*\@pdfborder{0 0 1}
8099 \providecommand*\@pdfborderstyle{}
8100 \let\CurrentBorderColor\@linkbordercolor
8101 \def\hyper@anchor#1{%
8102   \Hy@SaveLastskip
8103   \begingroup
8104     \let\protect=\string
8105     \hyper@chars
8106     \special{!aname #1;\@pdfview}%
8107   \endgroup
8108   \Hy@activeanchortrue
8109   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
8110   \Hy@activeanchorfalse
8111   \Hy@RestoreLastskip
8112 }
8113 \def\hyper@anchorstart#1{%
8114   \Hy@SaveLastskip
8115   \begingroup
8116     \hyper@chars
8117     \special{!aname #1;\@pdfview}%
8118   \endgroup

```

```

8119 \Hy@activeanchortrue
8120 }
8121 \def\hyper@anchorend{%
8122 \Hy@activeanchorfalse
8123 \Hy@RestoreLastskip
8124 }
8125 \def\@urltype{url}
8126 \def\Hy@undefinedname{UNDEFINED}
8127 \def\hyper@linkstart#1#2{%
8128 \Hy@pstringdef\Hy@pstringURI{#2}%
8129 \expandafter\Hy@colorlink\csname @#1color\endcsname
8130 \@ifundefined{#@1bordercolor}{%
8131 \let\CurrentBorderColor\relax
8132 }{%
8133 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8134 }%
8135 \def\Hy@tempa{#1}%
8136 \ifx\Hy@tempa\@urltype
8137 \special{!%
8138 aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
8139 a=<%
8140 \ifHy@pdfa /F 4\fi
8141 \Hy@setpdfborder
8142 \ifx\CurrentBorderColor\relax
8143 \else
8144 /C [\CurrentBorderColor]%
8145 \fi
8146 >%
8147 }%
8148 \else
8149 \protected@edef\Hy@testname{#2}%
8150 \ifx\Hy@testname\@empty
8151 \let\Hy@testname\Hy@undefinedname
8152 \fi
8153 \special{!%
8154 aref \Hy@testname;%
8155 a=<%
8156 \ifHy@pdfa /F 4\fi
8157 \Hy@setpdfborder
8158 \ifx\CurrentBorderColor\relax
8159 \else
8160 /C [\CurrentBorderColor]%
8161 \fi
8162 >%
8163 }%
8164 \fi
8165 }
8166 \def\hyper@linkend{%
8167 \special{!endaref}%
8168 \Hy@endcolorlink
8169 }
8170 \def\hyper@linkfile#1#2#3{%
8171 \leavevmode
8172 \special{!%
8173 aref <%
8174 \ifnum\Hy@VTeXversion>753 \ifHy@newwindow n\fi\fi
8175 f=#2>#3;%

```



```

8176     a=<%
8177         \ifHy@pdfa /F 4\fi
8178         \Hy@setpdfborder
8179         \ifx\@filebordercolor\relax
8180         \else
8181             /C [\@filebordercolor]%
8182         \fi
8183     >%
8184 }%
8185 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
8186 \special{!endaref}%
8187 }
8188 \def\hyper@linkurl#1#2{%
8189     \begingroup
8190     \Hy@pstringdef\Hy@pstringURI{#2}%
8191     \hyper@chars
8192     \leavevmode
8193     \special{!%
8194         aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
8195         a=<%
8196             \ifHy@pdfa /F 4\fi
8197             \Hy@setpdfborder
8198             \ifx\@urlbordercolor\relax
8199             \else
8200                 /C [\@urlbordercolor]%
8201             \fi
8202         >%
8203     }%
8204     \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
8205     \special{!endaref}%
8206 \endgroup
8207 }
8208 \def\hyper@link#1#2#3{%
8209     \@ifundefined{#1bordercolor}{%
8210         \let\CurrentBorderColor\relax
8211     }{%
8212         \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8213     }%
8214     \leavevmode
8215     \protected@edef\Hy@testname{#2}%
8216     \ifx\Hy@testname\@empty
8217         \let\Hy@testname\Hy@undefinedname
8218     \fi
8219     \special{!%
8220         aref \Hy@testname;%
8221         a=<%
8222             \ifHy@pdfa /F 4\fi
8223             \Hy@setpdfborder
8224             \ifx\CurrentBorderColor\relax
8225             \else
8226                 /C [\CurrentBorderColor]%
8227             \fi
8228         >%
8229     }%
8230     \expandafter\Hy@colorlink\csname @#1color\endcsname#3\Hy@endcolorlink
8231     \special{!endaref}%
8232 }

```

```

8233 \def\hyper@image#1#2{%
8234   \hyper@linkurl{#2}{#1}%
8235 }
8236 \def\@hyper@launch run:#1\#2#3{%
8237   \Hy@pstringdef\Hy@pstringF{#1}%
8238   \Hy@pstringdef\Hy@pstringP{#3}%
8239   \leavevmode
8240   \special{!aref %
8241     <u=%
8242       /Type/Action%
8243       /S/Launch%
8244       /F(\Hy@pstringF)%
8245       \Hy@SetNewWindow
8246       \ifx\#3\else /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>\fi%
8247     >;%
8248     a=<%
8249       \ifHy@pdfa /F 4\fi
8250       \Hy@setpdfborder
8251       \ifx\@runbordercolor\relax
8252       \else
8253         /C[\@runbordercolor]%
8254       \fi
8255     >%
8256   }%
8257   \Hy@colorlink\@runcolor#2\Hy@endcolorlink
8258   \special{!endaref}%
8259 }
8260 \def\Acrobatmenu#1#2{%
8261   \Hy@Acrobatmenu{#1}{#2}{%
8262     \special{!%
8263       aref <u=/S /Named /N /#1>;%
8264       a=<%
8265         \ifHy@pdfa /F 4\fi
8266         \Hy@setpdfborder
8267         \ifx\@menubordercolor\relax
8268         \else
8269           /C[\@menubordercolor]%
8270         \fi
8271       >%
8272     }%
8273     \Hy@colorlink\@menucolor#2\Hy@endcolorlink
8274     \special{!endaref}%
8275   }%
8276 }

```

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.

```

8277 \ifnum\Hy@VTeXversion<702 %
8278 \else
8279   \def\hyper@pagetransition{%
8280     \ifx\@pdfpagetransition\relax
8281     \else
8282       \ifx\@pdfpagetransition\empty

```

Standard incantation.

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

```

8283   \else

```

```

8284      \hvtex@parse@trans\@pdfpagetransition
8285      \fi
8286      \fi
8287  }%

```

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

Syntax of VT_EX \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:

```

8288 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
8289 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
8290 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
8291 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
8292 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
8293 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
8294 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%

```

Optional parameters:

```

8295 \def\hvtex@par@dimension{/Dm}%
8296 \def\hvtex@par@direction{/Di}%
8297 \def\hvtex@par@duration{/D}%
8298 \def\hvtex@par@motion{/M}%

```

Tokenizer:

```

8299 \def\hvtex@gettoken{\expandafter\hvtex@gettoken@\hvtex@buffer\@nil}%

```

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

```

8300 \def\hvtex@gettoken@#1 #2\@nil{%
8301   \edef\hvtex@token{#1}%
8302   \edef\hvtex@buffer{#2}%
8303 }%
8304 \def\hvtex@parse@trans#1{%

```

Initializing code:

```

8305 \let\hvtex@trans@code\@empty
8306 \let\hvtex@param@dimension\@empty
8307 \let\hvtex@param@direction\@empty
8308 \let\hvtex@param@duration\@empty
8309 \let\hvtex@param@motion\@empty
8310 \edef\hvtex@buffer{#1\space}%

```

First token is the PDF transition name without escape.

```

8311 \hvtex@gettoken
8312 \ifx\hvtex@token\@empty

```

Leading space(s)?

```
8313      \ifx\hvtex@buffer\@empty
```

The buffer is empty, nothing to do.

```
8314      \else
8315      \hvtex@gettoken
8316      \fi
8317      \fi
8318      \csname hvtex@trans@effect@\hvtex@token\endcsname
```

Now is time to parse optional parameters.

```
8319      \hvtex@trans@params
8320  }%
```

Reentrant macro to parse optional parameters.

```
8321  \def\hvtex@trans@params{%
8322      \ifx\hvtex@buffer\@empty
8323      \else
8324      \hvtex@gettoken
8325      \let\hvtex@trans@par\hvtex@token
8326      \ifx\hvtex@buffer\@empty
8327      \else
8328      \hvtex@gettoken
8329      \ifx\hvtex@trans@par\hvtex@par@duration
```

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

```
8330      \let\hvtex@param@duration\hvtex@token
8331      \else \ifx\hvtex@trans@par\hvtex@par@motion
```

/M can be either /I or /O

```
8332      \expandafter\edef\expandafter\hvtex@param@motion
8333      \expandafter{\expandafter\@gobble\hvtex@token}%
8334      \else \ifx\hvtex@trans@par\hvtex@par@dimension
```

/Dm can be either /H or /V

```
8335      \expandafter\edef\expandafter\hvtex@param@dimension
8336      \expandafter{\expandafter\@gobble\hvtex@token}%
8337      \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).

```
8338      \let\hvtex@param@direction\hvtex@token
8339      \fi\fi\fi\fi
8340      \fi
8341      \fi
8342      \ifx\hvtex@buffer\@empty
8343      \let\next\hvtex@produce@trans
8344      \else
8345      \let\next\hvtex@trans@params
8346      \fi
8347      \next
8348  }%
```

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

```
8349  \def\hvtex@produce@trans{%
8350      \let\vtex@trans@special\@empty
8351      \if S\hvtex@trans@code
8352      \edef\vtex@trans@special{\hvtex@trans@code
8353      \hvtex@param@dimension\hvtex@param@motion}%

```

```

8354 \else\if B\hvtex@trans@code
8355 \edef\vtex@trans@special{%
8356 \hvtex@trans@code\hvtex@param@dimension
8357 }%
8358 \else\if X\hvtex@trans@code
8359 \edef\vtex@trans@special{%
8360 \hvtex@trans@code\hvtex@param@motion
8361 }%
8362 \else\if W\hvtex@trans@code
8363 \edef\vtex@trans@special{%
8364 \hvtex@trans@code\hvtex@param@direction
8365 }%
8366 \else\if D\hvtex@trans@code
8367 \let\vtex@trans@special\hvtex@trans@code
8368 \else\if R\hvtex@trans@code
8369 \let\vtex@trans@special\hvtex@trans@code
8370 \else\if G\hvtex@trans@code
8371 \edef\vtex@trans@special{%
8372 \hvtex@trans@code\hvtex@param@direction
8373 }%
8374 \fi\fi\fi\fi\fi\fi\fi
8375 \ifx\vtex@trans@special\@empty
8376 \else
8377 \ifx\hvtex@param@duration\@empty
8378 \else
8379 \setlength{\dimen@}{\hvtex@param@duration\p}%

```

I'm not guilty of possible overflow.

```

8380 \multiply\dimen@\@m
8381 \edef\vtex@trans@special{%
8382 \vtex@trans@special,\strip@pt\dimen@
8383 }%
8384 \fi

```

And all the mess is just for this.

```

8385 \special{!trans \vtex@trans@special}%
8386 \fi
8387 }%
8388 \def\hyper@pageduration{%
8389 \ifx\@pdfpageduration\relax
8390 \else
8391 \ifx\@pdfpageduration\@empty
8392 \special{!duration-}%
8393 \else
8394 \special{!duration \@pdfpageduration}%
8395 \fi
8396 \fi
8397 }%
8398 \def\hyper@pagehidden{%
8399 \ifHy@useHidKey
8400 \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
8401 \fi
8402 }%
8403 \g@addto@macro\Hy@EveryPageBoxHook{%
8404 \hyper@pagetransition
8405 \hyper@pageduration
8406 \hyper@pagehidden
8407 }%

```

8408 \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

```

8409 \ifx\@pdfproducer\relax
8410   \def\@pdfproducer{VTeX}%
8411   \ifnum\Hy@VTeXversion>\z@
8412     \count@VTeXversion
8413     \divide\count@ 100 %
8414     \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
8415     \multiply\count@ -100 %
8416     \advance\count@VTeXversion
8417     \edef\@pdfproducer{%
8418       \@pdfproducer
8419       .\ifnum\count@<10 0\fi\the\count@
8420       \ifx\VTeXOS\@undefined\else
8421         \ifnum\VTeXOS>0 %
8422           \ifnum\VTeXOS<6 %
8423             \space(
8424             \ifcase\VTeXOS
8425               \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
8426             \fi
8427           )%
8428         \fi
8429       \fi
8430     ,\space
8431     \ifnum\OpMode=\@one PDF\else PS\fi
8432     \space backend%
8433     \ifx\gexmode\@undefined\else
8434       \ifnum\gexmode>\z@\space with GeX\fi
8435     \fi
8436   }%
8437 \fi
8438 \fi
8439 \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).

```
8440 \def\PDF@SetupDoc{%
8441   \ifx\@pdfpagescrop\@empty
8442   \else
8443     \special{!pdfinfo b=<\@pdfpagescrop>}%
8444   \fi
8445   \ifx\@pdfstartpage\@empty
8446   \else
8447     \ifx\@pdfstartview\@empty
8448     \else
8449       \special{!onopen Page\@pdfstartpage}%
8450     \fi
8451   \fi
8452   \special{!pdfinfo p=</\@pdfpagemode>}%
8453   \ifx\@baseurl\@empty
8454   \else
8455     \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
8456   \fi
8457   \special{!pdfinfo v=<<<%
8458     \ifHy@toolbar\else /HideToolbar true\fi
8459     \ifHy@menubar\else /HideMenubar true\fi
8460     \ifHy>windowui\else /HideWindowUI true\fi
8461     \ifHy@fitwindow /FitWindow true\fi
8462     \ifHy@centerwindow /CenterWindow true\fi
8463     \ifHy@displaydoctitle /DisplayDocTitle true\fi
8464     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8465     \Hy@UseNameKey{Direction}\@pdfdirection
8466     \Hy@UseNameKey{ViewArea}\@pdfviewarea
8467     \Hy@UseNameKey{ViewClip}\@pdfviewclip
8468     \Hy@UseNameKey{PrintArea}\@pdfprintarea
8469     \Hy@UseNameKey{PrintClip}\@pdfprintclip
8470     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8471     \Hy@UseNameKey{Duplex}\@pdfduplex
8472     \ifx\@pdfpicktraybypdfsize\@empty
8473     \else
8474       /PickTrayByPDFSize \@pdfpicktraybypdfsize
8475     \fi
8476     \ifx\@pdfprintpagerange\@empty
8477     \else
8478       /PrintPageRange[\@pdfprintpagerange]%
8479     \fi
8480     \ifx\@pdfnumcopies\@empty
8481     \else
8482       /NumCopies \@pdfnumcopies
8483     \fi
8484   >>>}%
8485   \ifx\@pdfpagelayout\@empty
8486   \else
8487     \special{!pdfinfo l=</\@pdfpagelayout\space>}%
8488   \fi
8489 }%
8490 \def\PDF@FinishDoc{%
8491   \Hy@UseMaketitleInfos
8492   \special{!pdfinfo a=<\@pdfauthor>}%
8493   \special{!pdfinfo t=<\@pdftitle>}%
8494   \special{!pdfinfo s=<\@pdfsubject>}%
8495   \special{!pdfinfo c=<\@pdfcreator>}%
```

```

8496 \ifx\@pdfproducer\relax
8497 \else
8498   \special{!pdfinfo r=<\@pdfproducer>}%
8499 \fi
8500 \special{!pdfinfo k=<\@pdfkeywords>}%
8501 \Hy@DisableOption{pdfauthor}%
8502 \Hy@DisableOption{pdftitle}%
8503 \Hy@DisableOption{pdfsubject}%
8504 \Hy@DisableOption{pdfcreator}%
8505 \Hy@DisableOption{pdfcreationdate}%
8506 \Hy@DisableOption{pdfmoddate}%
8507 \Hy@DisableOption{pdfproducer}%
8508 \Hy@DisableOption{pdfkeywords}%
8509 }
8510 </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.

```

8511 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
8512 <package>\providecommand*{\Hy@DistillerDestFix}{}
8513 <*pdfmark | dviwindo>
8514 \def\Hy@DistillerDestFix{%
8515   \begingroup
8516     \let\x\literalps@out

```

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

```

8517   \ifnum \@ifundefined{OpMode}{0}{}%
8518     \@ifundefined{gexmode}{0}{}%
8519     \ifnum\gexmode>0 \OpMode\else 0\fi
8520   }>1 %
8521   \def\x##1{%
8522     \immediate\special{! =##1}%
8523   }%
8524 \fi
8525 \x{%
8526   /product where{%
8527     pop %
8528     product(Distiller)search{%
8529       pop pop pop %
8530       version(.)search{%
8531         exch pop exch pop%
8532         (3011)eq{%
8533           gsave %
8534           newpath 0 0 moveto closepath clip%
8535           /Courier findfont 10 scalefont setfont %
8536           72 72 moveto(.)show %
8537           grestore%

```



```

8538         }if%
8539         }{pop}ifelse%
8540     }{pop}ifelse%
8541     }if%
8542     }%
8543 \endgroup
8544 }
8545 </pdfmark | dviwindo>

```

46.8 Direct pdfmark support (dvipdf and pdfmark)

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

```

\pdfproducer    for document information
\literalps@out  PostScript output
\headerps@out   PostScript output that goes in the header area

```

and the correct definitions of the following PostScript procedures:

```

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

```

```

8546 <*pdfmark | dvipdf>
8547 \def\hyper@anchor#1{%
8548   \Hy@SaveLastskip
8549   \begingroup
8550     \pdfmark[\anchor@spot]{%
8551       pdfmark=/DEST,%
8552       linktype=anchor,%
8553       View=/\pdfview \pdfviewparams,%
8554       DestAnchor={#1}%
8555     }%
8556   \endgroup
8557   \Hy@RestoreLastskip
8558 }
8559 <*dvipdf>
8560 \def\hyper@anchorstart#1{\Hy@activeanchortrue}
8561 \def\hyper@anchorend{\Hy@activeanchorfalse}
8562 \def\hyper@linkstart#1#2{%
8563   \expandafter\Hy@colorlink\csname @#1color\endcsname
8564   \xdef\hyper@currentanchor{#2}%
8565 }
8566 \def\hyper@linkend{%
8567   \Hy@endcolorlink
8568 }
8569 </dvipdf>
8570 <*pdfmark>
8571 \ifundefined{hyper@anchorstart}{\endinput}
8572 \def\hyper@anchorstart#1{%
8573   \Hy@SaveLastskip
8574   \literalps@out{H.S}%
8575   \xdef\hyper@currentanchor{#1}%
8576   \Hy@activeanchortrue
8577 }
8578 \def\hyper@anchorend{%

```

```

8579 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
8580 \pdfmark{%
8581     pdfmark=/DEST,%
8582     linktype=anchor,%
8583     View=/\@pdfview \@pdfviewparams,%
8584     DestAnchor=\hyper@currentanchor,%
8585 }%
8586 \Hy@activeanchorfalse
8587 \Hy@RestoreLastskip
8588 }
8589 \def\hyper@linkstart#1#2{%
8590     \ifHy@breaklinks
8591     \else
8592         \leavevmode\hbox\bgroup
8593         \fi
8594         \expandafter\Hy@colorlink\csname @#1color\endcsname
8595         \literalps@out{H.S}%
8596         \xdef\hyper@currentanchor{#2}%
8597         \gdef\hyper@currentlinktype{#1}%
8598     }
8599 \def\hyper@linkend{%
8600     \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
8601     \@ifundefined{@\hyper@currentlinktype bordercolor}{%
8602         \let\Hy@tempcolor\relax
8603     }{%
8604         \edef\Hy@tempcolor{%
8605             \csname @\hyper@currentlinktype bordercolor\endcsname
8606         }%
8607     }%
8608     \pdfmark{%
8609         pdfmark=/ANN,%
8610         linktype=link,%
8611         Subtype=/Link,%
8612         PDFAFlags=4,%
8613         Dest=\hyper@currentanchor,%
8614         AcroHighlight=\@pdfhighlight,%
8615         Border=\@pdfborder,%
8616         BorderStyle=\@pdfborderstyle,%
8617         Color=\Hy@tempcolor,%
8618         Raw=H.B%
8619     }%
8620     \Hy@endcolorlink
8621     \ifHy@breaklinks
8622     \else
8623         \egroup
8624     \fi
8625 }
8626 \langle*pdfmark\rangle

```

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.

```

8627 \begingroup
8628 \catcode'P=12 %
8629 \catcode'T=12 %
8630 \lowercase{\endgroup
8631 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%

```

```

8632 }
8633 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}
8634 \pdfmark>

```

\hyper@pagetransition

```

8635 \def\hyper@pagetransition{%
8636   \ifx\@pdfpagetransition\relax
8637   \else
8638     \ifx\@pdfpagetransition\@empty
8639     % 1. Does an old entry have to be deleted?
8640     % 2. If 1=yes, how to delete?
8641     \else
8642       \pdfmark{%
8643         pdfmark=/PUT,%
8644         Raw={%
8645           \string{ThisPage\string}%
8646           <</Trans << /S /\@pdfpagetransition\space >> >>%
8647         }%
8648       }%
8649     \fi
8650   \fi
8651 }

```

\hyper@pageduration

```

8652 \def\hyper@pageduration{%
8653   \ifx\@pdfpageduration\relax
8654   \else
8655     \ifx\@pdfpageduration\@empty
8656     % 1. Does an old entry have to be deleted?
8657     % 2. If 1=yes, how to delete?
8658     \else
8659       \pdfmark{%
8660         pdfmark=/PUT,%
8661         Raw={%
8662           \string{ThisPage\string}%
8663           <</Dur \@pdfpageduration>>%
8664         }%
8665       }%
8666     \fi
8667   \fi
8668 }

```

\hyper@pagehidden

```

8669 \def\hyper@pagehidden{%
8670   \ifHy@useHidKey
8671     \pdfmark{%
8672       pdfmark=/PUT,%
8673       Raw={%
8674         \string{ThisPage\string}%
8675         <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
8676       }%
8677     }%
8678   \fi
8679 }

8680 \g@addto@macro\Hy@EveryPageBoxHook{%
8681   \hyper@pagetransition

```

```

8682 \hyper@pageduration
8683 \hyper@pagehidden
8684 }

8685 </pdfmark>
8686 \def\hyper@image#1#2{%
8687 \hyper@linkurl{#2}{#1}%
8688 }

8689 \def\Hy@undefinedname{UNDEFINED}
8690 \def\hyper@link#1#2#3{%
8691 \@ifundefined{#1bordercolor}{%
8692 \let\Hy@tempcolor\relax
8693 }{%
8694 \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
8695 }%
8696 \begingroup
8697 \protected@edef\Hy@testname{#2}%
8698 \ifx\Hy@testname\@empty
8699 \let\Hy@testname\Hy@undefinedname
8700 \fi
8701 <*dvipdf>
8702 \pdfmark[{#3}]{%
8703 pdfmark=/LNK,%
8704 },%
8705 linktype={#1},%
8706 AcroHighlight=\@pdfhighlight,%
8707 Border=\@pdfborder,%
8708 BorderStyle=\@pdfborderstyle,%
8709 Color=\Hy@tempcolor,%
8710 Dest=\Hy@testname
8711 }%
8712 </dvipdf>
8713 <*pdfmarkbase>
8714 \pdfmark[{#3}]{%
8715 Color=\Hy@tempcolor,%
8716 linktype={#1},%
8717 AcroHighlight=\@pdfhighlight,%
8718 Border=\@pdfborder,%
8719 BorderStyle=\@pdfborderstyle,%
8720 pdfmark=/ANN,%
8721 Subtype=/Link,%
8722 PDFAMlags=4,%
8723 Dest=\Hy@testname
8724 }%
8725 </pdfmarkbase>
8726 \endgroup
8727 }

8728 \newtoks\pdf@docset
8729 \def\PDF@FinishDoc{%
8730 \Hy@UseMaketitleInfos
8731 \let\Hy@temp\@empty
8732 \ifx\@pdfcreationdate\@empty
8733 \else
8734 \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
8735 \fi
8736 \ifx\@pdfmoddate\@empty
8737 \else
8738 \expandafter\def\expandafter\Hy@temp\expandafter{%

```

```

8739     \Hy@temp
8740     ModDate=\@pdfmoddate,%
8741 }%
8742 \fi
8743 \ifx\@pdfproducer\relax
8744 \else
8745     \expandafter\def\expandafter\Hy@temp\expandafter{%
8746         \Hy@temp
8747         Producer=\@pdfproducer,%
8748     }%
8749 \fi
8750 \expandafter
8751 \pdfmark\expandafter{%
8752     \Hy@temp
8753     pdfmark=/DOCINFO,%
8754     Title=\@pdftitle,%
8755     Subject=\@pdfsubject,%
8756     Creator=\@pdfcreator,%
8757     Author=\@pdfauthor,%
8758     Keywords=\@pdfkeywords
8759 }%
8760 \Hy@DisableOption{pdfauthor}%
8761 \Hy@DisableOption{pdftitle}%
8762 \Hy@DisableOption{pdfsubject}%
8763 \Hy@DisableOption{pdfcreator}%
8764 \Hy@DisableOption{pdfcreationdate}%
8765 \Hy@DisableOption{pdfmoddate}%
8766 \Hy@DisableOption{pdfproducer}%
8767 \Hy@DisableOption{pdfkeywords}%
8768 }
8769 \def\PDF@SetupDoc{%
8770     \def\Hy@temp{%
8771         \ifx\@pdfstartpage\@empty
8772         \else
8773             \ifx\@pdfstartview\@empty
8774             \else
8775                 \edef\Hy@temp{%
8776                     ,Page=\@pdfstartpage
8777                     ,View=\@pdfstartview
8778                 }%
8779             \fi
8780         \fi
8781         \edef\Hy@temp{%
8782             \noexpand\pdfmark{%
8783                 pdfmark=/DOCVIEW,%
8784                 PageMode=/\@pdfpagemode
8785                 \Hy@temp
8786             }%
8787         }%
8788         \Hy@temp
8789         \ifx\@pdfpagescrop\@empty
8790         \else
8791             \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
8792         \fi
8793         \edef\Hy@temp{%
8794             \ifHy@toolbar\else /HideToolbar true\fi
8795             \ifHy@menubar\else /HideMenubar true\fi

```

```

8796 \ifHy@windowui\else /HideWindowUI true\fi
8797 \ifHy@fitwindow /FitWindow true\fi
8798 \ifHy@centerwindow /CenterWindow true\fi
8799 \ifHy@displaydoctitle /DisplayDocTitle true\fi
8800 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8801 \Hy@UseNameKey{Direction}\@pdfdirection
8802 \Hy@UseNameKey{ViewArea}\@pdfviewarea
8803 \Hy@UseNameKey{ViewClip}\@pdfviewclip
8804 \Hy@UseNameKey{PrintArea}\@pdfprintarea
8805 \Hy@UseNameKey{PrintClip}\@pdfprintclip
8806 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8807 \Hy@UseNameKey{Duplex}\@pdfduplex
8808 \ifx\@pdfpicktraybypdfsize\@empty
8809 \else
8810 /PickTrayByPDFSize \@pdfpicktraybypdfsize
8811 \fi
8812 \ifx\@pdfprintpagerange\@empty
8813 \else
8814 /PrintPageRange[\@pdfprintpagerange]%
8815 \fi
8816 \ifx\@pdfnumcopies\@empty
8817 \else
8818 /NumCopies \@pdfnumcopies
8819 \fi
8820 }%
8821 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
8822 \pdfmark{%
8823 pdfmark=/PUT,%
8824 Raw={%
8825 \string{Catalog\string}<<%
8826 \ifx\Hy@temp\@empty
8827 \else
8828 /ViewerPreferences<<\Hy@temp>>%
8829 \fi
8830 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
8831 \ifx\@pdflang\@empty
8832 \else
8833 /Lang(\@pdflang)%
8834 \fi
8835 \ifx\@baseurl\@empty
8836 \else
8837 /URI<</Base(\Hy@pstringB)>>%
8838 \fi
8839 >>%
8840 }%
8841 }%
8842 }
8843 </pdfmark | dvipdf>
8844 <*pdfmarkbase | dvipdf>

```

We define a single macro, pdfmark, which uses the ‘keyval’ system to define the various allowable keys; these are *exactly* as listed in the pdfmark reference for Acrobat 3.0. The only addition is pdfmark which specifies the type of pdfmark to create (like ANN, LINK etc). The surrounding round and square brackets in the pdfmark commands are supplied, but you have to put in / characters as needed for the values.

```

8845 \newif\ifHy@pdfmarkerror
8846 \def\pdfmark{\@ifnextchar [{\pdfmark@}{\pdfmark@[]}}

```

```

8847 \def\pdfmark@[#1]#2{%
8848   \Hy@pdfmarkerrorfalse
8849   \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
8850   \@processme
8851   \let\pdf@type\relax
8852   \setkeys{PDF}{#2}%
8853   \ifHy@pdfmarkerror
8854   \else
8855     \ifx\pdf@type\relax
8856       \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
8857       \ifx\#1\%
8858       \else
8859         \pdf@rect{#1}%
8860       \fi
8861     \else
8862       \ifx\#1\%
8863       \*pdfmarkbase
8864         \literalps@out{%
8865           [\the\pdf@toks\space\pdf@type\space pdfmark%
8866           ]%
8867       \pdfmarkbase
8868       \dvipdf) \literalps@out{/ANN >>}%
8869     \else
8870       \@ifundefined{@\pdf@linktype color}{%
8871         \Hy@colorlink\@linkcolor
8872       }{%
8873         \expandafter\Hy@colorlink
8874         \csname @\pdf@linktype color\endcsname
8875       }%
8876       \pdf@rect{#1}%
8877     \*pdfmarkbase
8878       \literalps@out{%
8879         [\the\pdf@toks\space\pdf@type\space pdfmark%
8880         ]%
8881     \pdfmarkbase
8882     \dvipdf) \literalps@out{/ANN >>}%
8883     \Hy@endcolorlink
8884   \fi
8885 \fi
8886 \fi
8887 }

```

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}

8888 \newsavebox{\pdf@box}
8889 \providecommand*{\Hy@setouterhbox}{\sbox}
8890 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
8891 \def\Hy@DEST{/DEST}
8892 \def\pdf@rect#1{%

```

```

8893 <dvipdf> \literalps@out{/ANN \pdf@type\space\the\pdf@toks\space <<}&#1%
8894 \leavevmode
8895 \ifHy@breaklinks
8896 \Hy@setouterhbox\pdf@box{&#1}%
8897 \else
8898 \sbox\pdf@box{&#1}%
8899 \fi
8900 \dimen@<ht\pdf@box
8901 \ifdim\dp\pdf@box=<z@
8902 \literalps@out{H.S}%
8903 \else
8904 \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
8905 \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...).

```

8906 \ifHy@breaklinks
8907 \expandafter\Hy@breaklinksunhbox
8908 \else
8909 \expandafter\box
8910 \fi
8911 \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

8912 \ifdim\dimen@=<z@
8913 \literalps@out{H.R}%
8914 \else
8915 \raise\dimen@<hbox{\literalps@out{H.R}}%
8916 \fi
8917 \ifx\pdf@type\Hy@DEST
8918 \else
8919 \pdf@addtoksx{H.B}%
8920 \fi
8921 }

```

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.

```

8922 \newtoks\pdf@toks
8923 \newtoks\pdf@defaulttoks
8924 \pdf@defaulttoks={}%
8925 \def\pdf@addtoks&#1&#2{%
8926 \edef\@processme{\pdf@toks{\the\pdf@toks\space /&#2 &#1}}%
8927 \@processme
8928 }
8929 \def\pdf@addtoksx&#1{%
8930 \edef\@processme{\pdf@toks{\the\pdf@toks\space &#1}}%
8931 \@processme
8932 }
8933 \def\PDFdefaults&#1{%
8934 \pdf@defaulttoks={&#1}%
8935 }

```

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

```

8936 % what is the type of pdfmark?

```



```

8937 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
8938 % what is the link type?
8939 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
8940 \def\pdf@linktype{link}
8941 % parameter is a stream of PDF
8942 \define@key{PDF}{Raw}{\pdf@addtoks{#1}}
8943 % parameter is a name
8944 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
8945 % parameter is a array
8946 \define@key{PDF}{Border}{%
8947   \edef\Hy@temp{#1}%
8948   \ifx\Hy@temp\@empty
8949     \else
8950       \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
8951   \fi
8952 }
8953 \let\Hy@BorderArrayPatch\@empty
8954 % parameter is a dictionary
8955 \define@key{PDF}{BorderStyle}{%
8956   \edef\Hy@temp{#1}%
8957   \ifx\Hy@temp\@empty
8958     \else
8959       \pdf@addtoks{<<#1>>}{BS}%
8960   \fi
8961 }
8962 % parameter is a array
8963 \define@key{PDF}{Color}{%
8964   \ifx\relax#1\relax
8965     \else
8966       \pdf@addtoks{[#1]}{Color}% hash-ok
8967   \fi
8968 }
8969 % parameter is a string
8970 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
8971 % parameter is a integer
8972 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
8973 % parameter is a array
8974 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
8975 % parameter is a string
8976 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
8977 % parameter is a string or file
8978 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
8979 % parameter is a destination
8980 \define@key{PDF}{Dest}{%
8981   \Hy@pstringdef\Hy@pstringDest{#1}%
8982   \ifx\Hy@pstringDest\@empty
8983     \Hy@pdfmarkerrortrue
8984     \Hy@Warning{Destination with empty name ignored}%
8985   \else
8986     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
8987   \fi
8988 }
8989 \define@key{PDF}{DestAnchor}{%
8990   \Hy@pstringdef\Hy@pstringDest{#1}%
8991   \ifx\Hy@pstringDest\@empty
8992     \Hy@pdfmarkerrortrue
8993     \Hy@Warning{Destination with empty name ignored}%

```

```

8994 \else
8995     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
8996 \fi
8997 }
8998 % parameter is a string
8999 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
9000 % parameter is a string
9001 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
9002 % parameter is a int
9003 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
9004 \define@key{PDF}{PDFAFlags}{%
9005     \ifHy@pdfa
9006         \pdf@addtoks{#1}{F}%
9007     \fi
9008 }
9009 % parameter is a name
9010 \define@key{PDF}{AcroHighlight}{%
9011     \begingroup
9012         \edef\x{#1}%
9013         \expandafter\endgroup\ifx\x\@empty
9014         \else
9015             \pdf@addtoks{#1}{H}%
9016         \fi
9017 }
9018 % parameter is a string
9019 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
9020 % parameter is a string
9021 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
9022 % parameter is a string
9023 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9024 % parameter is a string
9025 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
9026 % parameter is a Boolean
9027 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
9028 % parameter is a integer or name
9029 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
9030 % parameter is a name
9031 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
9032 % parameter is a string
9033 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
9034 % parameter is a array
9035 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
9036 % parameter is a integer
9037 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
9038 % parameter is a name
9039 \pdfmarkbase\define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
9040 \dvi pdf\define@key{PDF}{Subtype}{\pdf@addtoks{#1}{}}
9041 % parameter is a string
9042 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
9043 % parameter is a string
9044 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
9045 % parameter is a string
9046 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
9047 % parameter is an array
9048 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}% hash-ok
9049 % parameter is a string
9050 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

```

These are the keys used in the DOCINFO section.

```
9051 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
9052 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
9053 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}
9054 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9055 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
9056 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
9057 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
9058 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9059 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
9060 \define@key{PDF}{URI}{\pdf@addtoks{(#1)}{URI}}
9061 </pdfmarkbase | dvipdf>
9062 <*pdfmark | dvipdf>
9063 \def\Acrobatmenu#1#2{%
9064   \Hy@Acrobatmenu{#1}{#2}{%
9065     \pdfmark[{#2}]{%
9066       linktype=menu,%
9067       pdfmark=/ANN,%
9068       AcroHighlight=\@pdfhighlight,%
9069       Border=\@pdfborder,%
9070       BorderStyle=\@pdfborderstyle,%
9071       Action={<< /Subtype /Named /N /#1 >>},%
9072       Subtype=/Link,%
9073       PDFAFlags=4%
9074     }%
9075   }%
9076 }
```

And now for some useful examples:

```
9077 \def\PDFNextPage{\@ifnextchar[{\PDFNextPage@}{\PDFNextPage@[]}}
9078 \def\PDFNextPage@[#1]#2{%
9079   \pdfmark[{#2}]{%
9080     #1,%
9081     Border=\@pdfborder,%
9082     BorderStyle=\@pdfborderstyle,%
9083     Color=.2 .1 .5,%
9084     pdfmark=/ANN,%
9085     Subtype=/Link,%
9086     PDFAFlags=4,%
9087     Page=/Next%
9088   }%
9089 }
9090 \def\PDFPreviousPage{%
9091   \@ifnextchar[{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
9092 }
9093 \def\PDFPreviousPage@[#1]#2{%
9094   \pdfmark[{#2}]{%
9095     #1,%
9096     Border=\@pdfborder,%
9097     BorderStyle=\@pdfborderstyle,%
9098     Color=.4 .4 .1,%
9099     pdfmark=/ANN,%
9100     Subtype=/Link,%
9101     PDFAFlags=4,%
9102     Page=/Prev%
9103   }%
9104 }
9105 \def\PDFOpen#1{%
```

```

9106 \pdfmark{#1,pdfmark=/DOCVIEW}%
9107 }

```

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

```

9108 \def\hyper@linkurl#1#2{%
9109 \begingroup
9110 \Hy@pstringdef\Hy@pstringURI{#2}%
9111 \hyper@chars
9112 \leavevmode
9113 \pdfmarkbase{
9114 \pdfmark[{#1}]{%
9115 pdfmark=/ANN,%
9116 linktype=url,%
9117 AcroHighlight=\pdfhighlight,%
9118 Border=\pdfborder,%
9119 BorderStyle=\pdfborderstyle,%
9120 Color=\urlbordercolor,%
9121 Action={<< /Subtype /URI /URI (\Hy@pstringURI) >>},%
9122 Subtype=/Link,%
9123 PDFAFlags=4%
9124 }%
9125 \pdfmarkbase}
9126 \dvipdf{
9127 \pdfmark[{#1}]{%
9128 pdfmark=/LNK,%
9129 linktype=url,%
9130 AcroHighlight=\pdfhighlight,%
9131 Border=\pdfborder,%
9132 BorderStyle=\pdfborderstyle,%
9133 Color=\urlbordercolor,%
9134 Action={URI /URI <\Hy@hstringURI>}%
9135 }%
9136 \dvipdf}
9137 \endgroup
9138 }
9139 \def\hyper@linkfile#1#2#3{%
9140 \begingroup
9141 \Hy@pstringdef\Hy@pstringF{#2}%
9142 \Hy@pstringdef\Hy@pstringD{#3}%
9143 \leavevmode
9144 \pdfmark{
9145 \pdfmark[{#1}]{%
9146 pdfmark=/ANN,%
9147 Subtype=/Link,%
9148 PDFAFlags=4,%
9149 AcroHighlight=\pdfhighlight,%
9150 Border=\pdfborder,%
9151 BorderStyle=\pdfborderstyle,%
9152 linktype=file,%
9153 Color=\filebordercolor,%
9154 Action={%
9155 <<%
9156 /S/GoToR%
9157 \Hy@SetNewWindow
9158 /F(\Hy@pstringF)%
9159 /D\ifx\#3\[\[0 \pdfstartview]\else(\Hy@pstringD)cvn\fi
9160 >>%
9161 }%

```

```

9162     }%
9163 </pdfmark>
9164 <*dvipdf>
9165     \pdfmark[{#1}]{%
9166         pdfmark=/LNK,%
9167         linktype=file,%
9168         AcroHighlight=\@pdfhighlight,%
9169         Border=\@pdfborder,%
9170         BorderStyle=\@pdfborderstyle,%
9171         Color=\@filebordercolor,%
9172         Action={%
9173             <<%
9174                 /S/GoToR%
9175                 \Hy@SetNewWindow
9176                 /F(\Hy@pstringF)%
9177                 /D\ifx\#3\0 \pdfstartview\else(\Hy@pstringD)cvn\fi
9178             >>%
9179         }%
9180     }%
9181 </dvipdf>
9182 \endgroup
9183 }
9184 \def\@hyper@launch run:#1\#2#3{%
9185     \begingroup
9186     \Hy@pstringdef\Hy@pstringF{#1}%
9187     \Hy@pstringdef\Hy@pstringP{#3}%
9188     \leavevmode
9189 <*pdfmark>
9190     \pdfmark[{#2}]{%
9191         pdfmark=/ANN,%
9192         Subtype=/Link,%
9193         PDFAFlags=4,%
9194         AcroHighlight=\@pdfhighlight,%
9195         Border=\@pdfborder,%
9196         BorderStyle=\@pdfborderstyle,%
9197         linktype=run,%
9198         Color=\@runbordercolor,%
9199         Action={%
9200             <<%
9201                 /S/Launch%
9202                 \Hy@SetNewWindow
9203                 /F(\Hy@pstringF)%
9204                 \ifx\#3\%
9205                 \else
9206                     /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9207                 \fi
9208             >>%
9209         }%
9210     }%
9211 </pdfmark>
9212 <*dvipdf>
9213     \pdfmark[{#2}]{%
9214         pdfmark=/LNK,%
9215         linktype=file,%
9216         AcroHighlight=\@pdfhighlight,%
9217         Border=\@pdfborder,%
9218         BorderStyle=\@pdfborderstyle,%

```

```

9219      Color=\@filebordercolor,%
9220      Action={%
9221          <<%
9222              /S/GoToR%
9223              \Hy@SetNewWindow
9224              /F(\Hy@pstringF)%
9225              \ifx\#3\%
9226              \else
9227                  /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9228              \fi
9229          >>%
9230      }%
9231  }%
9232 </dvipdf>
9233 \endgroup
9234 }
9235 </pdfmark | dvipdf>

```

Unfortunately, some parts of the pdfmark PostScript code depend on vagaries of the dvi driver. We isolate here all the problems.

46.9 Rokicki's dvips

dvips thinks in 10ths of a big point, its coordinate space is resolution dependent, and its *y* axis starts at the top of the page. Other drivers can and will be different!

The work is done in SDict, because we add in some header definitions in a moment.

```

9236 <*dvips>
9237 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
9238 \def\headerps@out#1{\special{! #1}}%
9239 \input{pdfmark.def}%
9240 \ifx\@pdfproducer\relax
9241 \def\@pdfproducer{dvips + Distiller}%
9242 \fi
9243 \providecommand*\@pdfborder{0 0 1}
9244 \providecommand*\@pdfborderstyle{}
9245 \providecommand*\@pdfview{XYZ}
9246 \providecommand*\@pdfviewparams{ H.V}
9247 \def\Hy@BorderArrayPatch{BorderArrayPatch}
9248 \g@addto@macro\Hy@FirstPageHook{%
9249 \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.

```

9250 /DvipsToPDF{72.27 mul Resolution div} def%
9251 /PDFToDvips{72.27 div Resolution mul} def%
9252 /BPToDvips{72 div Resolution mul}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.

```

9253    /BorderArrayPatch{%
9254        [exch{%
9255            dup dup type/integertype eq exch type/realtype eq or%
9256            {BPToDvips}if%
9257        }forall]%
9258    }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.

```

9259    /HyperBorder {1 PDFToDvips} def%
9260    /H.V {pdf@hoff pdf@voff null} def%
9261    /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

```

9262    /H.S {%
9263        currentpoint %
9264        HyperBorder add /pdf@lly exch def %
9265        dup DvipsToPDF 72 add /pdf@hoff exch def %
9266        HyperBorder sub /pdf@llx exch def%
9267    } 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`

```

9268    /H.L {%
9269        2 sub dup%
9270        /HyperBasePt exch def %
9271        PDFToDvips /HyperBaseDvips exch def %
9272        currentpoint %
9273        HyperBaseDvips sub /pdf@ury exch def%
9274        /pdf@urx exch def%
9275    } def%
9276    /H.A {%
9277        H.L %
9278        % |pdf@voff| = the distance from the top of the page to a point
9279        % |\baselineskip| above the current point in PDF coordinates
9280        currentpoint exch pop %
9281        vsize 72 sub exch DvipsToPDF %
9282        HyperBasePt sub % baseline skip
9283        sub /pdf@voff exch def%
9284    } def%
9285    /H.R {%
9286        currentpoint %
9287        HyperBorder sub /pdf@ury exch def %
9288        HyperBorder add /pdf@urx exch def %
9289        % |pdf@voff| = the distance from the top of the page to the current point, in
9290        % PDF coordinates
9291        currentpoint exch pop vsize 72 sub %
9292        exch DvipsToPDF sub /pdf@voff exch def%
9293    } def%

```

```

9294 }%
9295 }
9296 \AfterBeginDocument{%
9297   \ifx\special@paper\@empty\else
9298     \ifHy@setpagesize
9299       \special{papersize=\special@paper}%
9300     \fi
9301     \Hy@DisableOption{setpagesize}%
9302   \fi
9303 }
9304 </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.

```

9305 <*vtexpdfmark>
9306 \def\literalps@out#1{\special{pS:#1}}%
9307 \def\headerps@out#1{\immediate\special{pS:#1}}%
9308 \input{pdfmark.def}%
9309 \ifx\@pdfproducer\relax
9310   \ifnum\OpMode=\@one
9311     \def\@pdfproducer{VTeX}%
9312   \else
9313     \def\@pdfproducer{VTeX + Distiller}%
9314   \fi
9315 \fi
9316 \providecommand*\@pdfborder{0 0 1}
9317 \providecommand*\@pdfborderstyle{}
9318 \providecommand*\@pdfview{XYZ}
9319 \providecommand*\@pdfviewparams{ H.V}
9320 \g@addto@macro\Hy@FirstPageHook{%
9321   \headerps@out{%
9322     /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.

```

9323   /HyperBorder {1} def%
9324   /H.V {pdf@hoff pdf@voff null} def%
9325   /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: $\text{pdf@lly} = Y_c - \text{HyperBorder}$, $\text{pdf@hoff} = X_c + 72$, $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

9326   /H.S {%
9327     currentpoint %
9328     HyperBorder sub%
9329     /pdf@lly exch def %
9330     dup 72 add /pdf@hoff exch def %
9331     HyperBorder sub%
9332     /pdf@llx exch def%
9333   } def%

```

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


```

9334    /H.L {%
9335        2 sub%
9336        /HyperBasePt exch def %
9337        currentpoint %
9338        HyperBasePt add HyperBorder add%
9339        /pdf@ury exch def %
9340        HyperBorder add%
9341        /pdf@urx exch def%
9342    } def%
9343    /H.A {%
9344        H.L %
9345        currentpoint exch pop %
9346        vsize 72 sub exch %
9347        HyperBasePt add add%
9348        /pdf@voff exch def%
9349    } def%
pdf@ury =  $Y_c$  + HyperBorder, pdf@urx =  $X_c$  + HyperBorder
9350    /H.R {%
9351        currentpoint %
9352        HyperBorder add%
9353        /pdf@ury exch def %
9354        HyperBorder add%
9355        /pdf@urx exch def %
9356        currentpoint exch pop vsize 72 sub add%
9357        /pdf@voff exch def%
9358    } def%
9359 }%
9360 }
9361 </vtxpdfmark>

```

46.11 Textures

At the suggestion of Jacques Distler (distler@golem.ph.utexas.edu), try to derive a suitable driver for Textures. This was initially a copy of dvips, with some guesses about Textures behaviour. Ross Moore (ross@maths.mq.edu.au) has added modifications for better compatibility, and to support use of pdfmark.

Start by defining a macro that expands to the end-of-line character. This will be used to format the appearance of PostScript code, to enhance readability, and avoid excessively long lines which might otherwise become broken to bad places.

`\Hy@ps@CR` The macro `\Hy@ps@CR` contains the end-of-line character.

```

9362 <*textures>
9363 \begingroup
9364   \obeylines %
9365   \gdef\Hy@ps@CR{\noexpand
9366   }%
9367 \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.

```

9368 \def\literalps@out#1{%
9369   \special{postscript 0 0 transform}%
9370   \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
9371 }%
9372 %

```

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.

```

9373 \def\headerps@out#1{%
9374   \special{%
9375     prepostscript TeXdict begin\Hy@ps@CR
9376       #1\Hy@ps@CR
9377     end%
9378   }%
9379 }%
9380 %

```

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.

```

9381 \g@addto@macro\Hy@FirstPageHook{%
9382   \headerps@out{%
9383     /betterpdfmark {%
9384       systemdict begin %
9385         dup /BP eq%
9386         {cleartomark gsave nulldevice []}%
9387         {dup /EP eq%
9388           {cleartomark cleartomark grestore}%
9389           {cleartomark}}%
9390         ifelse%
9391       }ifelse %
9392     end%
9393   }def\Hy@ps@CR
9394   __pdfmark__ not{/pdfmark /betterpdfmark load def}if%
9395 }% end of \headerps@out
9396 }% end of \AtBeginShipoutFirst
9397 %
9398 \input{pdfmark.def}%
9399 %
9400 \ifx\@pdfproducer\relax
9401   \def\@pdfproducer{Textures + Distiller}%
9402 \fi
9403 \providecommand*\@pdfborder{0 0 1}
9404 \providecommand*\@pdfborderstyle{}
9405 \providecommand*\@pdfview{XYZ}
9406 \providecommand*\@pdfviewparams{ H.V}
9407 %

```

These are called at the start and end of unboxed links; their job is to leave available PS variables called pdf@llx pdf@lly pdf@urx pdf@ury, which are the coordinates of the bounding rectangle of the link, and pdf@hoff pdf@voff which are the PDF page offsets. The Rect pair are called at the LL and UR corners of a box known to T_EX.

```

9408 \headerps@out{%

```

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

```

9409 /vsize {\Hy@pageheight} def%
9410 /DvipsToPDF {} def%
9411 /PDFToDvips {} def%
9412 /BPToDvips {} def%
9413 /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
9414 /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
9415 /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
9416 /H.S {%
9417     currentpoint %
9418     HyperBorder add /pdf@lly exch def %
9419     dup DvipsToPDF 72 add /pdf@hoff exch def %
9420     HyperBorder sub /pdf@llx exch def%
9421 } def\Hy@ps@CR
9422 /H.L {%
9423     2 sub %
9424     PDFToDvips /HyperBase exch def %
9425     currentpoint %
9426     HyperBase sub /pdf@ury exch def%
9427     /pdf@urx exch def%
9428 } def\Hy@ps@CR
9429 /H.A {%
9430     H.L %
9431     currentpoint exch pop %
9432     vsize 72 sub exch DvipsToPDF %
9433     HyperBase sub % baseline skip
9434     sub /pdf@voff exch def%
9435 } def\Hy@ps@CR
9436 /H.R {%
9437     currentpoint %
9438     HyperBorder sub /pdf@ury exch def %
9439     HyperBorder add /pdf@urx exch def %
9440     currentpoint exch pop vsize 72 sub %
9441     exch DvipsToPDF sub /pdf@voff exch def%
9442 } def\Hy@ps@CR
9443 }

9444 \AfterBeginDocument{%
9445     \ifHy@colorlinks
9446         \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
9447     \fi
9448 }

```

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.

```

9449 \expandafter\let\expandafter\keepPDF@SetupDoc
9450 \csname PDF@SetupDoc\endcsname
9451 \def\PDF@SetupDoc{%
9452     \ifx\@baseurl\@empty
9453     \else
9454         \special{html:<base href="\@baseurl">}%
9455     \fi
9456     \keepPDF@SetupDoc
9457 }
9458 \def\hyper@anchor#1{%
9459     \Hy@SaveLastskip
9460     \begingroup

```

```

9461 \let\protect=\string
9462 \special{html:<a name=\hyper@quote #1\hyper@quote>}%
9463 \endgroup
9464 \Hy@activeanchortrue
9465 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9466 \special{html:</a>}%
9467 \Hy@activeanchorfalse
9468 \Hy@RestoreLastskip
9469 }
9470 \def\hyper@anchorstart#1{%
9471 \Hy@SaveLastskip
9472 \begingroup
9473 \hyper@chars
9474 \special{html:<a name=\hyper@quote#1\hyper@quote>}%
9475 \endgroup
9476 \Hy@activeanchortrue
9477 }
9478 \def\hyper@anchorend{%
9479 \special{html:</a>}%
9480 \Hy@activeanchorfalse
9481 \Hy@RestoreLastskip
9482 }
9483 \def\@urltype{url}
9484 \def\hyper@linkstart#1#2{%
9485 \expandafter\Hy@colorlink\csname @#1color\endcsname
9486 \def\Hy@tempa{#1}%
9487 \ifx\Hy@tempa\@urltype
9488 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9489 \else
9490 \begingroup
9491 \hyper@chars
9492 \special{html:<a href=\hyper@quote\##2\hyper@quote>}%
9493 \endgroup
9494 \fi
9495 }
9496 \def\hyper@linkend{%
9497 \special{html:</a>}%
9498 \Hy@endcolorlink
9499 }
9500 \def\hyper@linkfile#1#2#3{%
9501 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\#3\\\else\##3\fi}%
9502 }
9503 \def\hyper@linkurl#1#2{%
9504 \leavevmode
9505 \ifHy@raiselinks
9506 \setbox\@tempboxa=\color@hbox #1\color@endbox
9507 \@linkdim\dp\@tempboxa
9508 \lower\@linkdim\hbox{%
9509 \hyper@chars
9510 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
9511 }%
9512 \Hy@colorlink\@urlcolor#1%
9513 \@linkdim\ht\@tempboxa
9514 \advance\@linkdim by -6.5\p@
9515 \raise\@linkdim\hbox{\special{html:</a>}}%
9516 \Hy@endcolorlink
9517 \else

```

```

9518     \begingroup
9519     \hyper@chars
9520     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9521     \Hy@colorlink\@urlcolor#1%
9522     \special{html:</a>}%
9523     \Hy@endcolorlink
9524     \endgroup
9525     \fi
9526 }
9527 \def\hyper@link#1#2#3{%
9528     \hyper@linkurl{#3}{\##2}%
9529 }
9530 \def\hyper@image#1#2{%
9531     \begingroup
9532     \hyper@chars
9533     \special{html:<img src=\hyper@quote#1\hyper@quote>}%
9534     \endgroup
9535 }
9536 </textures>

```

46.12 dvipsone

```

9537 % \subsection{dvipsone driver}
9538 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
9539 % |\special| commands.
9540 <*dvipsone>
9541 \providecommand*\@pdfborder{0 0 1}
9542 \providecommand*\@pdfborderstyle{}
9543 \def\literalps@out#1{\special{ps:#1}}%
9544 \def\headerps@out#1{\special{headertext=#1}}%
9545 \input{pdfmark.def}%
9546 \ifx\@pdfproducer\relax
9547     \def\@pdfproducer{dvipsone + Distiller}%
9548 \fi
9549 \def\PDF@FinishDoc{%
9550     \Hy@UseMaketitleInfos
9551     \special{PDF: Keywords \@pdfkeywords}%
9552     \special{PDF: Title \@pdftitle}%
9553     \special{PDF: Creator \@pdfcreator}%
9554     \ifx\@pdfcreationdate\@empty
9555     \else
9556         \special{PDF: CreationDate \@pdfcreationdate}%
9557     \fi
9558     \ifx\@pdfmoddate\@empty
9559     \else
9560         \special{PDF: ModDate \@pdfmoddate}%
9561     \fi
9562     \special{PDF: Author \@pdfauthor}%
9563     \ifx\@pdfproducer\relax
9564     \else
9565         \special{PDF: Producer \@pdfproducer}%
9566     \fi
9567     \special{PDF: Subject \@pdfsubject}%
9568     \Hy@DisableOption{pdfauthor}%
9569     \Hy@DisableOption{pdftitle}%
9570     \Hy@DisableOption{pdfsubject}%
9571     \Hy@DisableOption{pdfcreator}%

```

```

9572 \Hy@DisableOption{pdfcreationdate}%
9573 \Hy@DisableOption{pdfmoddate}%
9574 \Hy@DisableOption{pdfproducer}%
9575 \Hy@DisableOption{pdfkeywords}%
9576 }
9577 \def\PDF@SetupDoc{%
9578   \def\Hy@temp{%
9579     \ifx\@pdfstartpage\@empty
9580     \else
9581       \ifx\@pdfstartview\@empty
9582       \else
9583         \edef\Hy@temp{%
9584           ,Page=\@pdfstartpage
9585           ,View=\@pdfstartview
9586         }%
9587       \fi
9588     \fi
9589     \edef\Hy@temp{%
9590       \noexpand\pdfmark{%
9591         pdfmark=/DOCVIEW,%
9592         PageMode=/\@pdfpagemode
9593       }\Hy@temp
9594     }%
9595   }%
9596   \Hy@temp
9597   \ifx\@pdfpagescrop\@empty
9598   \else
9599     \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9600   \fi
9601   \edef\Hy@temp{%
9602     \ifHy@toolbar\else /HideToolbar true\fi
9603     \ifHy@menubar\else /HideMenubar true\fi
9604     \ifHy>windowui\else /HideWindowUI true\fi
9605     \ifHy@fitwindow /FitWindow true\fi
9606     \ifHy@centerwindow /CenterWindow true\fi
9607     \ifHy@displaydoctitle /DisplayDocTitle true\fi
9608     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9609     \Hy@UseNameKey{Direction}\@pdfdirection
9610     \Hy@UseNameKey{ViewArea}\@pdfviewarea
9611     \Hy@UseNameKey{ViewClip}\@pdfviewclip
9612     \Hy@UseNameKey{PrintArea}\@pdfprintarea
9613     \Hy@UseNameKey{PrintClip}\@pdfprintclip
9614     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9615     \Hy@UseNameKey{Duplex}\@pdfduplex
9616     \ifx\@pdfpicktraybypdfsize\@empty
9617     \else
9618       /PickTrayByPDFSize \@pdfpicktraybypdfsize
9619     \fi
9620     \ifx\@pdfprintpagerange\@empty
9621     \else
9622       /PrintPageRange[\@pdfprintpagerange]%
9623     \fi
9624     \ifx\@pdfnumcopies\@empty
9625     \else
9626       /NumCopies \@pdfnumcopies
9627     \fi
9628   }%

```

```

9629 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9630 \pdfmark{%
9631   pdfmark=/PUT,%
9632   Raw={%
9633     \string{Catalog\string}<<%
9634     \ifx\Hy@temp\@empty
9635     \else
9636       /ViewerPreferences<<\Hy@temp>>%
9637     \fi
9638     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9639     \ifx\@pdflang\@empty
9640     \else
9641       /Lang(\@pdflang)%
9642     \fi
9643     \ifx\@baseurl\@empty
9644     \else
9645       /URI<</Base(\Hy@pstringB)>>%
9646     \fi
9647   >>%
9648 }%
9649 }%
9650 }
9651 \providecommand*\@pdfview{XYZ}
9652 \providecommand*\@pdfviewparams{ %
9653   gsave revscl currentpoint grestore %
9654   72 add exch pop null exch null%
9655 }
9656 \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.

```

9657 \g@addto@macro\Hy@FirstPageHook{%
9658   \headerps@out{%

```

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

```

9659   /DvipsToPDF { 65781 div } def%
9660   /PDFToDvips { 65781 mul } def%
9661   /BPToDvips{65781 mul}def%
9662   /HyperBorder { 1 PDFToDvips } def%
9663   /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.

```

9664   /BorderArrayPatch{%
9665     [exch{%
9666       dup dup type/integertype eq exch type/realtype eq or%
9667       {BPToDvips}if%
9668     }forall]%
9669   }def%
9670   /H.S {%
9671     currentpoint %
9672     HyperBorder add /pdf@lly exch def %
9673     dup DvipsToPDF 72 add /pdf@hoff exch def %
9674     HyperBorder sub /pdf@llx exch def%
9675   } def%

```

```

9676 /H.L {%
9677 2 sub %
9678 PDFToDvips /HyperBase exch def %
9679 currentpoint %
9680 HyperBase sub /pdf@ury exch def%
9681 /pdf@urx exch def%
9682 } def%
9683 /H.A {%
9684 H.L %
9685 currentpoint exch pop %
9686 HyperBase sub % baseline skip
9687 DvipsToPDF /pdf@voff exch def%
9688 } def%
9689 /H.R {%
9690 currentpoint %
9691 HyperBorder sub /pdf@ury exch def %
9692 HyperBorder add /pdf@urx exch def %
9693 currentpoint exch pop DvipsToPDF /pdf@voff exch def%
9694 } def%
9695 }%
9696 }
9697 </dvipsone>
9698 <*dvipdf>
9699 \def\literalps@out#1{\special{pdf: #1}}%
9700 \providecommand*\@pdfborder{0 0 1}
9701 \providecommand*\@pdfborderstyle{}
9702 </dvipdf>

```

46.13 TeX4ht

```

9703 <*tex4ht>
9704 \@ifpackageloaded{tex4ht}{%
9705 \typeout{hyperref tex4ht: tex4ht already loaded}%
9706 }{%
9707 \RequirePackage[htex4ht]{tex4ht}%
9708 }
9709 \hyperlinkfileprefix{}
9710 \def\PDF@FinishDoc{}
9711 \def\PDF@SetupDoc{%
9712 \ifx\@baseurl\@empty
9713 \else
9714 \special{t4ht=<base href="\@baseurl">}%
9715 \fi
9716 }
9717 \def\hyper@anchor#1{%
9718 \Hy@SaveLastskip
9719 \begingroup
9720 \let\protect=\string
9721 \special{t4ht=<a name=\hyper@quote #1\hyper@quote>}%
9722 \endgroup
9723 \Hy@activeanchortrue
9724 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9725 \special{t4ht=</a>}%
9726 \Hy@activeanchorfalse
9727 \Hy@RestoreLastskip
9728 }
9729 \def\hyper@anchorstart#1{%
9730 \Hy@SaveLastskip

```



```

9731 \begingroup
9732   \hyper@chars\special{t4ht=<a name=\hyper@quote#1\hyper@quote>}}%
9733 \endgroup
9734 \Hy@activeanchortrue
9735 }
9736 \def\hyper@anchorend{%
9737   \special{t4ht=</a>}}%
9738 \Hy@activeanchorfalse
9739 \Hy@RestoreLastskip
9740 }
9741 \def\@urltype{url}
9742 \def\hyper@linkstart#1#2{%
9743   \expandafter\Hy@colorlink\csname @#1color\endcsname
9744   \def\Hy@tempa{#1}%
9745   \ifx\Hy@tempa\@urltype
9746     \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}}%
9747   \else
9748     \begingroup
9749       \hyper@chars
9750       \special{t4ht=<a href=\hyper@quote\##2\hyper@quote>}}%
9751     \endgroup
9752   \fi
9753 }
9754 \def\hyper@linkend{%
9755   \special{t4ht=</a>}}%
9756 \Hy@endcolorlink
9757 }
9758 \def\hyper@linkfile#1#2#3{%
9759   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\#3\\\else\##3\fi}%
9760 }
9761 \def\hyper@linkurl#1#2{%
9762   \leavevmode
9763   \ifHy@raiselinks
9764     \setbox\@tempboxa=\color@hbox #1\color@endbox
9765     \@linkdim\dp\@tempboxa
9766     \lower\@linkdim\hbox{%
9767       \begingroup
9768         \hyper@chars\special{t4ht=<a href=\hyper@quote#2\hyper@quote>}}%
9769       \endgroup
9770     }%
9771     \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
9772     \@linkdim\ht\@tempboxa
9773     \advance\@linkdim by -6.5\p@
9774     \raise\@linkdim\hbox{\special{t4ht=</a>}}}%
9775   \else
9776     \begingroup
9777       \hyper@chars
9778       \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}}%
9779       \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
9780       \special{t4ht=</a>}}%
9781     \endgroup
9782   \fi
9783 }
9784 \def\hyper@link#1#2#3{%
9785   \hyper@linkurl{#3}{\##2}%
9786 }
9787 \def\hyper@image#1#2{%

```

```

9788 \begingroup
9789 \hyper@chars
9790 \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
9791 \endgroup
9792 }
9793 \let\autoref\ref
9794 \ifx \rEfLiNK \UnDef
9795 \def\rEfLiNK #1#2{#2}%
9796 \fi
9797 \def\backref#1{}
9798 </tex4ht>
9799 <*tex4htcfg>
9800 \IfFileExists{\jobname.cfg}{\endinput}{}
9801 \Preamble{html}
9802 \begin{document}%
9803 \EndPreamble
9804 \def\TeX{TeX}
9805 \def\OMEGA{\Omega}
9806 \def\LaTeX{LaTeX}
9807 \def\LaTeXe{\LaTeX2e}
9808 \def\eTeX{e-TeX}
9809 \def\MF{Metafont}
9810 \def\MP{Metapost}
9811 </tex4htcfg>

```

47 Driver-specific form support

47.1 pdfmarks

```

9812 <*pdfmark>
9813 \long\def\@Form[#1]{%
9814 \g@addto@macro\Hy@FirstPageHook{%
9815 \headerps@out{%
9816 [%
9817 /_objdef{pdfDocEncoding}%
9818 /type/dict%
9819 /OBJ pdfmark%
9820 [%
9821 {pdfDocEncoding}%
9822 <<%
9823 /Type/Encoding%
9824 /Differences[%
9825 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
9826 /tilde %
9827 39/quotesingle %
9828 96/grave %
9829 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
9830 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
9831 /quotedblbase/quotedblleft/quotedblright/quoteleft%
9832 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%
9833 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
9834 164/currency %
9835 166/brokenbar %
9836 168/dieresis/copyright/ordfeminine %
9837 172/logicalnot/.notdef/registered/macron/degree/plusminus%
9838 /twosuperior/threesuperior/acute/mu %
9839 183/periodcentered/cedilla/onesuperior/ordmasculine %
9840 188/onequarter/onehalf/threequarters %

```

```

9841      192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
9842      /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
9843      /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
9844      /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
9845      /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
9846      /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
9847      /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
9848      /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
9849      /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%
9850      /ucircumflex/udieresis/yacute/thorn/ydieresis%
9851  ]%
9852  >>%
9853 /PUT pdfmark%
9854 [%
9855   /_objdef{ZaDb}%
9856   /type/dict%
9857 /OBJ pdfmark%
9858 [%
9859   {ZaDb}%
9860   <<%
9861     /Type/Font%
9862     /Subtype/Type1%
9863     /Name/ZaDb%
9864     /BaseFont/ZapfDingbats%
9865   >>%
9866 /PUT pdfmark%
9867 [%
9868   /_objdef{Helv}%
9869   /type/dict%
9870 /OBJ pdfmark%
9871 [%
9872   {Helv}%
9873   <<%
9874     /Type/Font%
9875     /Subtype/Type1%
9876     /Name/Helv%
9877     /BaseFont/Helvetica%
9878     /Encoding{pdfDocEncoding}%
9879   >>%
9880 /PUT pdfmark%
9881 [%
9882   /_objdef{aform}%
9883   /type/dict%
9884 /OBJ pdfmark%
9885 [%
9886   /_objdef{afields}%
9887   /type/array%
9888 /OBJ pdfmark%
9889 {%
9890 [%
9891   /BBox[0 0 100 100]%
9892   /_objdef{Check}%
9893 /BP pdfmark %
9894 1 0 0 setrgbcolor%
9895 /ZapfDingbats 80 selectfont %
9896 20 20 moveto%
9897 (4)show%

```

```

9898 [/EP pdfmark%
9899 [%
9900   /BBox[0 0 100 100]%
9901   /_objdef{Cross}%
9902 /BP pdfmark %
9903 1 0 0 setrgbcolor%
9904 /ZapfDingbats 80 selectfont %
9905 20 20 moveto%
9906 (8)show%
9907 [/EP pdfmark%
9908 [%
9909   /BBox[0 0 250 100]%
9910   /_objdef{Submit}%
9911 /BP pdfmark %
9912 0.6 setgray %
9913 0 0 250 100 rectfill %
9914 1 setgray %
9915 2 2 moveto %
9916 2 98 lineto %
9917 248 98 lineto %
9918 246 96 lineto %
9919 4 96 lineto %
9920 4 4 lineto %
9921 fill %
9922 0.34 setgray %
9923 248 98 moveto %
9924 248 2 lineto %
9925 2 2 lineto %
9926 4 4 lineto %
9927 246 4 lineto %
9928 246 96 lineto %
9929 fill%
9930 /Helvetica 76 selectfont %
9931 0 setgray %
9932 8 22.5 moveto%
9933 (Submit)show%
9934 [/EP pdfmark%
9935 [%
9936   /BBox[0 0 250 100]%
9937   /_objdef{SubmitP}%
9938 /BP pdfmark %
9939 0.6 setgray %
9940 0 0 250 100 rectfill %
9941 0.34 setgray %
9942 2 2 moveto %
9943 2 98 lineto %
9944 248 98 lineto %
9945 246 96 lineto %
9946 4 96 lineto %
9947 4 4 lineto %
9948 fill %
9949 1 setgray %
9950 248 98 moveto %
9951 248 2 lineto %
9952 2 2 lineto %
9953 4 4 lineto %
9954 246 4 lineto %

```

```

9955 246 96 lineto %
9956 fill%
9957 /Helvetica 76 selectfont %
9958 0 setgray %
9959 10 20.5 moveto%
9960 (Submit)show%
9961 [/EP pdfmark%
9962 } ?pdfmark%
9963 [%
9964 {aform}%
9965 <<%
9966 /Fields{afields}%
9967 /DR<<%
9968 /Font<<%
9969 /ZaDb{ZaDb}%
9970 /Helv{Helv}%
9971 >>%
9972 >>%
9973 /DA(/Helv 10 Tf 0 g)%
9974 /CO{corder}%
9975 \ifHy@pdfa
9976 \else
9977 /NeedAppearances true%
9978 \fi
9979 >>%
9980 /PUT pdfmark%
9981 [%
9982 {Catalog}%
9983 <<%
9984 /AcroForm{aform}%
9985 >>%
9986 /PUT pdfmark%
9987 [%
9988 /_objdef{corder}%
9989 /type/array%
9990 /OBJ pdfmark% dps
9991 }}%
9992 \setkeys{Form}{#1}%
9993 }
9994 \def\@endForm{}
9995 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
9996 \typeout{Sorry, pdfmark drivers do not support FORM gauges}%
9997 }
9998 \def\@TextField[#1]#2{% parameters, label
9999 \def\Fld@name{#2}%
10000 \def\Fld@default{}%
10001 \let\Fld@value\@empty
10002 \def\Fld@width{\DefaultWidthofText}%
10003 \def\Fld@height{%
10004 \ifFld@multiline
10005 \DefaultHeightofTextMultiline
10006 \else
10007 \DefaultHeightofText
10008 \fi
10009 }%
10010 \beginngroup
10011 \Field@toks={ }%

```

```

10012 \expandafter\HyField@SetKeys\expandafter{%
10013 \DefaultOptionsofText,#1%
10014 }%
10015 \HyField@FlagsText
10016 \ifFld@hidden\def\Fld@width{1sp}\fi
10017 \ifx\Fld@value\empty\def\Fld@value{\Fld@default}\fi
10018 \LayoutTextField{#2}{%
10019 \Hy@escapeform\PDFForm@Text
10020 \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
10021 pdfmark=/ANN,Raw={\PDFForm@Text}%
10022 }%
10023 }%
10024 \endgroup
10025 }
10026 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10027 \def\Fld@name{#2}%
10028 \let\Fld@default\relax
10029 \let\Fld@value\relax
10030 \def\Fld@width{\DefaultWidthofChoiceMenu}%
10031 \def\Fld@height{\DefaultHeightofChoiceMenu}%
10032 \beginngroup
10033 \Fld@menulength=0 %
10034 \@tempdima\z@
10035 \@for\@curropt:=#3\do{%
10036 \expandafter\Fld@checkequals\@curropt==\\%
10037 \Hy@StepCount\Fld@menulength
10038 \settowidth{\@tempdimb}{\@currDisplay}%
10039 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
10040 }%
10041 \advance\@tempdima by 15\p@
10042 \Field@toks={ }%
10043 \beginngroup
10044 \HyField@SetKeys{#1}%
10045 \edef\x{\endgroup
10046 \noexpand\expandafter
10047 \noexpand\HyField@SetKeys
10048 \noexpand\expandafter{%
10049 \expandafter\noexpand\csname DefaultOptionsof%
10050 \ifFld@radio
10051 Radio%
10052 \else
10053 \ifFld@combo
10054 \ifFld@popdown
10055 PopdownBox%
10056 \else
10057 ComboBox%
10058 \fi
10059 \else
10060 ListBox%
10061 \fi
10062 \fi
10063 \endcsname
10064 }%
10065 }\x
10066 \HyField@SetKeys{#1}%
10067 \ifFld@hidden\def\Fld@width{1sp}\fi
10068 \ifx\Fld@value\relax

```

```

10069     \let\Fld@value\Fld@default
10070     \fi
10071     \LayoutChoiceField{#2}{%
10072     \ifFld@radio
10073         \HyField@FlagsRadioButton
10074         \@@Radio{#3}%
10075     \else
10076         \beginngroup
10077             \HyField@FlagsChoice
10078             \ifdim\Fld@width<\@tempdima
10079                 \ifdim\@tempdima<1cm\@tempdima1cm\fi
10080                 \edef\Fld@width{\the\@tempdima}%
10081             \fi
10082             \ifFld@combo
10083             \else
10084                 \@tempdima=\the\Fld@menulength\Fld@charsize
10085                 \advance\@tempdima by \Fld@borderwidth bp %
10086                 \advance\@tempdima by \Fld@borderwidth bp %
10087                 \edef\Fld@height{\the\@tempdima}%
10088             \fi
10089             \@@ListBox{#3}%
10090         \endgroup
10091     \fi
10092     }%
10093 \endgroup
10094 }
10095 \def\@@Radio#1{%
10096     \Fld@listcount=0 %
10097     \@for\@curropt:=#1\do{%
10098         \expandafter\Fld@checkequals\@curropt==\%
10099         \Hy@StepCount\Fld@listcount
10100         \@currDisplay\space
10101         \Hy@escapeform\PDFForm@Radio
10102         \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
10103             pdfmark=/ANN,%
10104             Raw={\PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>}%
10105         } % deliberate space between radio buttons
10106     }%
10107 }
10108 \newcount\Fld@listcount
10109 \def\@@ListBox#1{%
10110     \HyField@PDFChoices{#1}%
10111     \Hy@escapeform\PDFForm@List
10112     \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
10113         pdfmark=/ANN,Raw={\PDFForm@List}%
10114     }%
10115 }
10116 \def\@PushButton[#1]#2{% parameters, label
10117     \def\Fld@name{#2}%
10118     \beginngroup
10119         \Field@toks={ }%
10120         \expandafter\HyField@SetKeys\expandafter{%
10121             \DefaultOptionsofPushButton,#1%
10122         }%
10123         \ifHy@pdfa
10124             \PackageError{hyperref}{%
10125                 PDF/A: Push button with JavaScript is prohibited%

```

```

10126     }\@ehc
10127     \LayoutPushButtonField{%
10128         \leavevmode
10129         \MakeButtonField{#2}%
10130     }%
10131 \else
10132     \HyField@FlagsPushButton
10133     \ifFld@hidden\def\Fld@width{1sp}\fi
10134     \LayoutPushButtonField{%
10135         \leavevmode
10136         \Hy@escapeform\PDFForm@Push
10137         \pdfmark[\MakeButtonField{#2}]{%
10138             pdfmark=/ANN,Raw={\PDFForm@Push}%
10139         }%
10140     }%
10141 \fi
10142 \endgroup
10143 }
10144 \def\@Submit[#1]#2{%
10145     \Field@toks={ }%
10146     \def\Fld@width{\DefaultWidthofSubmit}%
10147     \def\Fld@height{\DefaultHeightofSubmit}%
10148     \begingroup
10149         \expandafter\HyField@SetKeys\expandafter{%
10150             \DefaultOptionsofSubmit,#1%
10151         }%
10152         \HyField@FlagsPushButton
10153         \HyField@FlagsSubmit
10154         \ifFld@hidden\def\Fld@width{1sp}\fi
10155         \Hy@escapeform\PDFForm@Submit
10156         \pdfmark[\MakeButtonField{#2}]{%
10157             pdfmark=/ANN,%
10158             Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}%
10159         }%
10160     \endgroup
10161 }
10162 \def\@Reset[#1]#2{%
10163     \Field@toks={ }%
10164     \def\Fld@width{\DefaultWidthofReset}%
10165     \def\Fld@height{\DefaultHeightofReset}%
10166     \begingroup
10167         \expandafter\HyField@SetKeys\expandafter{%
10168             \DefaultOptionsofReset,#1%
10169         }%
10170         \leavevmode
10171         \ifHy@pdfa
10172             \PackageError{hyperref}{%
10173                 PDF/A: Reset action is prohibited%
10174             }\@ehc
10175             \MakeButtonField{#2}%
10176         \else
10177             \HyField@FlagsPushButton
10178             \ifFld@hidden\def\Fld@width{1sp}\fi
10179             \Hy@escapeform\PDFForm@Reset
10180             \pdfmark[\MakeButtonField{#2}]{%
10181                 pdfmark=/ANN,Raw={\PDFForm@Reset}%
10182             }%

```



```

10183 \fi
10184 \endgroup
10185 }%
10186 \def\@CheckBox[#1]#2{% parameters, label
10187 \def\Fld@name{#2}%
10188 \def\Fld@default{0}%
10189 \begingroup
10190 \def\Fld@width{\DefaultWidthofCheckBox}%
10191 \def\Fld@height{\DefaultHeightofCheckBox}%
10192 \Field@toks={ }%
10193 \expandafter\HyField@SetKeys\expandafter{%
10194 \DefaultOptionsofCheckBox,#1%
10195 }%
10196 \HyField@FlagsCheckBox
10197 \ifFld@hidden\def\Fld@width{1sp}\fi
10198 \LayoutCheckField{#2}{%
10199 \Hy@escapeform\PDFForm@Check
10200 \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
10201 pdfmark=/ANN,Raw={\PDFForm@Check}%
10202 }%
10203 }%
10204 \endgroup
10205 }
10206 \pdfmark

```

47.2 dvipdf

```

10207 \dvipdf
10208 \def\@Form[#1]{\typeout{Sorry, I do not support FORMs}}
10209 \def\@endForm{}
10210 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10211 \typeout{Sorry, dvipdf does not support FORM gauges}%
10212 }
10213 \def\@TextField[#1]#2{% parameters, label
10214 \typeout{Sorry, dvipdf does not support FORM text fields}%
10215 }
10216 \def\@CheckBox[#1]#2{% parameters, label
10217 \typeout{Sorry, dvipdf does not support FORM checkboxes}%
10218 }
10219 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10220 \typeout{Sorry, dvipdf does not support FORM choice menus}%
10221 }
10222 \def\@PushButton[#1]#2{% parameters, label
10223 \typeout{Sorry, dvipdf does not support FORM pushbuttons}%
10224 }
10225 \def\@Reset[#1]#2{\typeout{Sorry, dvipdf does not support FORMs}}
10226 \def\@Submit[#1]#2{\typeout{Sorry, dvipdf does not support FORMs}}
10227 \dvipdf

```

47.3 HyperTeX

```

10228 \hypertex
10229 \def\@Form[#1]{\typeout{Sorry, HyperTeX does not support FORMs}}
10230 \def\@endForm{}
10231 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10232 \typeout{Sorry, HyperTeX does not support FORM gauges}%
10233 }
10234 \def\@TextField[#1]#2{% parameters, label
10235 \typeout{Sorry, HyperTeX does not support FORM text fields}%

```

```

10236 }
10237 \def\@CheckBox[#1]#2{% parameters, label
10238 \typeout{Sorry, HyperTeX does not support FORM checkboxes}%
10239 }
10240 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10241 \typeout{Sorry, HyperTeX does not support FORM choice menus}%
10242 }
10243 \def\@PushButton[#1]#2{% parameters, label
10244 \typeout{Sorry, HyperTeX does not support FORM pushbuttons}%
10245 }
10246 \def\@Reset[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
10247 \def\@Submit[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
10248 \end{hypertex}

```

47.4 TeX4ht

```

10249 \*tex4ht
10250 \def\@Form[#1]{%
10251 \setkeys{Form}{#1}%
10252 \HCode{<form action="\Form@action" method="\Form@method">}%
10253 }
10254 \def\@endForm{\HCode{</form>}}
10255 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10256 \typeout{Sorry, TeX4ht does not support gauges}%
10257 }
10258 \def\@TextField[#1]#2{% parameters, label
10259 \let\Hy@reserved@a\@empty
10260 \def\Fld@name{#2}%
10261 \def\Fld@default{}%
10262 \bgroup
10263 \Field@toks={ }%
10264 \setkeys{Field}{#1}%
10265 \HCode{<label for="\Fld@name">#2</label>}%
10266 \ifFld@password
10267 \@@PasswordField
10268 \else
10269 \@@TextField
10270 \fi
10271 \egroup
10272 }
10273 \def\@@PasswordField{%
10274 \HCode{%
10275 <input type="password" %
10276 id="\Fld@name" %
10277 name="\Fld@name" %
10278 \ifFld@hidden type="hidden" \fi
10279 value="\Fld@default" %
10280 \the\Field@toks
10281 >%
10282 }%
10283 }
10284 \def\@@TextField{%
10285 \ifFld@multiline
10286 \HCode{<textarea %
10287 \ifFld@readonly readonly \fi
10288 id="\Fld@name" %
10289 name="\Fld@name" %
10290 \ifFld@hidden type="hidden" \fi

```

```

10291     \the\Field@toks>%
10292 }%
10293 \Fld@default
10294 \HCode{</textarea>}%
10295 \else
10296 \HCode{<input type="text" %
10297 \ifFld@readonly readonly \fi
10298 id="\Fld@name" %
10299 name="\Fld@name" %
10300 \ifFld@hidden type="hidden" \fi
10301 value="\Fld@default" %
10302 \the\Field@toks>%
10303 }%
10304 \fi
10305 }
10306 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10307 \def\Fld@name{#2}%
10308 \def\Fld@default{}%
10309 \let\Hy@reserved@a\relax
10310 \begingroup
10311 \expandafter\Fld@findlength#3\\%
10312 \Field@toks={ }%
10313 \setkeys{Field}{#1}%
10314 #2%
10315 \ifFld@radio
10316 \expandafter\@@Radio#3\\%
10317 \else
10318 \expandafter\@@Menu#3\\%
10319 \fi
10320 \endgroup
10321 }
10322 \def\Fld@findlength#1\\{%
10323 \Fld@menulength=0 %
10324 \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
10325 }
10326 \def\@@Menu#1\\{%
10327 \HCode{<select size="\the\Fld@menulength" %
10328 name="\Fld@name" %
10329 \the\Field@toks>%
10330 }%
10331 \@for\@curropt:=#1\do{%
10332 \expandafter\Fld@checkequals\@curropt==\\%
10333 \HCode{<option %
10334 \ifx\@curropt\Fld@default selected \fi
10335 value="\@currValue">\@currDisplay</option>%
10336 }%
10337 }%
10338 \HCode{</select>}%
10339 }
10340 \def\@@Radio#1\\{%
10341 \@for\@curropt:=#1\do{%
10342 \expandafter\Fld@checkequals\@curropt==\\%
10343 \HCode{<input type="radio" %
10344 \ifx\@curropt\Fld@default checked \fi
10345 name="\Fld@name" %
10346 value="\@currValue" %
10347 \the\Field@toks>%

```

```

10348     }%
10349     \@currDisplay
10350 }%
10351 }
10352 \def\@PushButton[#1]#2{% parameters, label
10353 \def\Fld@name{#2}%
10354 \bgroup
10355 \Field@toks={ }%
10356 \setkeys{Field}{#1}%
10357 \HCode{<input type="button" %
10358     name="\Fld@name" %
10359     value="#2" %
10360     \the\Field@toks>%
10361 }%
10362 \HCode{</button>}%
10363 \egroup
10364 }
10365 \def\@Submit[#1]#2{%
10366 \HCode{<button type="submit">#2</button>}%
10367 }
10368 \def\@Reset[#1]#2{%
10369 \HCode{<button type="reset">#2</button>}%
10370 }
10371 \def\@CheckBox[#1]#2{% parameters, label
10372 \let\Hy@reserved@a\@empty
10373 \def\Fld@name{#2}%
10374 \def\Fld@default{0}%
10375 \bgroup
10376 \Field@toks={ }%
10377 \setkeys{Field}{#1}%
10378 \HCode{<input type="checkbox" %
10379     \ifFld@checked checked \fi
10380     \ifFld@disabled disabled \fi
10381     \ifFld@readonly readonly \fi
10382     name="\Fld@name" %
10383     \ifFld@hidden type="hidden" \fi
10384     value="\Fld@default" %
10385     \the\Field@toks>%
10386     #2%
10387 }%
10388 \egroup
10389 }
10390 </tex4ht>

```

47.5 pdfTeX

```

10391 <*pdfTeX>
10392 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10393 \typeout{Sorry, pdfTeX does not support FORM gauges}%
10394 }
10395 \def\MakeFieldObject#1#2{\sbox0{#1}%
10396 \immediate\pdfxform0 %
10397 \expandafter\edef\csname #2Object\endcsname{%
10398     \the\pdflastxform\space 0 R%
10399 }%
10400 \hbox to \Opt{\hskip-\maxdimen{\pdfrefxform \the\pdflastxform}}%
10401 }%
10402 \def\@Form[#1]{%

```

```

10403 \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
10404 \setkeys{Form}{#1}%
10405 \ifnum\pdftexversion>13 %
10406   \pdfrefobj\OBJ@pdfdocencoding
10407   \pdfrefobj\OBJ@ZaDb
10408   \pdfrefobj\OBJ@Helv
10409   \pdfrefobj\OBJ@acroform
10410 \fi
10411 \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
10412 \MakeFieldObject{%

```

Same as \ding{123} of package pifont.

```

10413   \begingroup
10414     \fontfamily{pzd}%
10415     \fontencoding{U}%
10416     \fontseries{m}%
10417     \fontshape{n}%
10418     \selectfont
10419     \char123 %
10420   \endgroup
10421 }{Ding}%
10422 \MakeFieldObject{%
10423   \fbox{\textcolor{yellow}{\textsf{Submit}}}%
10424 }{Submit}%
10425 \MakeFieldObject{%
10426   \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
10427 }{SubmitP}%
10428 }
10429 \def\@endForm{}
10430 \def\@TextField[#1]#2{% parameters, label
10431   \def\Fld@name{#2}%
10432   \def\Fld@default{}%
10433   \let\Fld@value\@empty
10434   \def\Fld@width{\DefaultWidthofText}%
10435   \def\Fld@height{%
10436     \ifFld@multiline
10437       \DefaultHeightofTextMultiline
10438     \else
10439       \DefaultHeightofText
10440     \fi
10441   }%
10442   \begingroup
10443     \Field@toks={ }%
10444     \expandafter\HyField@SetKeys\expandafter{%
10445       \DefaultOptionsofText,#1%
10446     }%
10447     \PDFForm@Name
10448     \HyField@FlagsText
10449     \ifFld@hidden\def\Fld@width{1sp}\fi
10450     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
10451     \LayoutTextField{#2}{%
10452       \Hy@escapeform\PDFForm@Text
10453       \pdfstartlink user {\PDFForm@Text}\relax
10454       \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
10455     }%
10456   \endgroup
10457 }
10458 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices

```

```

10459 \def\Fld@name{#2}%
10460 \let\Fld@default\relax
10461 \let\Fld@value\relax
10462 \def\Fld@width{\DefaultWidthofChoiceMenu}%
10463 \def\Fld@height{\DefaultHeightofChoiceMenu}%
10464 \begingroup
10465   \Fld@menulength=0 %
10466   \@tempdima\z@
10467   \for\@curropt:=#3\do{%
10468     \expandafter\Fld@checkequals\@curropt==\%
10469     \Hy@StepCount\Fld@menulength
10470     \settowidth{\@tempdimb}{\@currDisplay}%
10471     \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
10472   }%
10473   \advance\@tempdima by 15\p@
10474   \Field@toks={ }%
10475   \begingroup
10476     \HyField@SetKeys{#1}%
10477   \edef\x{\endgroup
10478     \noexpand\expandafter
10479     \noexpand\HyField@SetKeys
10480     \noexpand\expandafter{%
10481       \expandafter\noexpand\csname DefaultOptionsof%
10482         \ifFld@radio
10483           Radio%
10484         \else
10485           \ifFld@combo
10486             \ifFld@popdown
10487               PopdownBox%
10488             \else
10489               ComboBox%
10490             \fi
10491           \else
10492             ListBox%
10493           \fi
10494         \fi
10495       \endcsname
10496     }%
10497   }\x
10498   \HyField@SetKeys{#1}%
10499   \PDFForm@Name
10500   \ifFld@hidden\def\Fld@width{1sp}\fi
10501   \ifx\Fld@value\relax
10502     \let\Fld@value\Fld@default
10503   \fi
10504   \LayoutChoiceField{#2}{%
10505     \ifFld@radio
10506       \HyField@FlagsRadioButton
10507       \@@Radio{#3}%
10508     \else
10509       \begingroup
10510         \HyField@FlagsChoice
10511         \ifdim\Fld@width<\@tempdima
10512           \ifdim\@tempdima<1cm\@tempdima1cm\fi
10513         \edef\Fld@width{\the\@tempdima}%
10514       \fi
10515       \ifFld@combo

```

```

10516         \else
10517             \@tempdima=\the\Fld@menulength\Fld@charsize
10518             \advance\@tempdima by \Fld@borderwidth bp %
10519             \advance\@tempdima by \Fld@borderwidth bp %
10520             \edef\Fld@height{\the\@tempdima}%
10521         \fi
10522         \@@ListBox{#3}%
10523     \endgroup
10524 \fi
10525 }%
10526 \endgroup
10527 }
10528 \def\@@Radio#1{%
10529     \Fld@listcount=0 %
10530     \@for\@curropt:=#1\do{%
10531         \expandafter\Fld@checkequals\@curropt==\%
10532         \Hy@StepCount\Fld@listcount
10533         \@currDisplay\space
10534         \leavevmode
10535         \Hy@escapeform\PDFForm@Radio
10536         \pdfstartlink user {%
10537             \PDFForm@Radio
10538             /AP<<%
10539             /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.

```

10540         /\@currValue\space \DingObject
10541         >>%
10542     >>%
10543 }%
10544 \relax
10545 \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
10546 \space % deliberate space between radio buttons
10547 }%
10548 }
10549 \newcount\Fld@listcount
10550 \def\@@ListBox#1{%
10551     \HyField@PDFChoices{#1}%
10552     \leavevmode
10553     \Hy@escapeform\PDFForm@List
10554     \pdfstartlink user {\PDFForm@List}\relax
10555     \MakeChoiceField{\Fld@width}{\Fld@height}%
10556     \pdfendlink
10557 }
10558 \def\@PushButton[#1]#2{% parameters, label
10559     \def\Fld@name{#2}%
10560     \begingroup
10561         \Field@toks={}%
10562         \expandafter\HyField@SetKeys\expandafter{%
10563             \DefaultOptionsofPushButton,#1%
10564         }%
10565         \PDFForm@Name
10566         \ifHy@pdfa
10567             \PackageError{hyperref}{%
10568                 PDF/A: Push button with JavaScript is prohibited%
10569             }\@ehc

```

```

10570     \LayoutPushButtonField{%
10571     \leavevmode
10572     \MakeButtonField{#2}%
10573     }%
10574 \else
10575     \HyField@FlagsPushButton
10576     \ifFld@hidden\def\Fld@width{1sp}\fi
10577     \LayoutPushButtonField{%
10578     \leavevmode
10579     \Hy@escapeform\PDFForm@Push
10580     \pdfstartlink user {\PDFForm@Push}\relax
10581     \MakeButtonField{#2}%
10582     \pdfendlink
10583     }%
10584 \fi
10585 \endgroup
10586 }
10587 \def\@Submit[#1]#2{%
10588     \Field@toks={ }%
10589     \def\Fld@width{\DefaultWidthofSubmit}%
10590     \def\Fld@height{\DefaultHeightofSubmit}%
10591     \begingroup
10592     \expandafter\HyField@SetKeys\expandafter{%
10593     \DefaultOptionsofSubmit,#1%
10594     }%
10595     \HyField@FlagsPushButton
10596     \HyField@FlagsSubmit
10597     \ifFld@hidden\def\Fld@width{1sp}\fi
10598     \leavevmode
10599     \Hy@escapeform\PDFForm@Submit
10600     \pdfstartlink user {%
10601     \PDFForm@Submit
10602     /AP<</N \SubmitObject/D \SubmitPObject>>%
10603     }%
10604     \relax
10605     \MakeButtonField{#2}%
10606     \pdfendlink
10607 \endgroup
10608 }
10609 \def\@Reset[#1]#2{%
10610     \Field@toks={ }%
10611     \def\Fld@width{\DefaultWidthofReset}%
10612     \def\Fld@height{\DefaultHeightofReset}%
10613     \begingroup
10614     \expandafter\HyField@SetKeys\expandafter{%
10615     \DefaultOptionsofReset,#1%
10616     }%
10617     \leavevmode
10618     \ifHy@pdfa
10619     \PackageError{hyperref}{%
10620     PDF/A: Reset action is prohibited%
10621     }\@ehc
10622     \MakeButtonField{#2}%
10623 \else
10624     \HyField@FlagsPushButton
10625     \ifFld@hidden\def\Fld@width{1sp}\fi
10626     \Hy@escapeform\PDFForm@Reset

```



```

10627     \pdfstartlink user {\PDFForm@Reset}\relax
10628     \MakeButtonField{#2}%
10629     \pdfendlink
10630     \fi
10631 \endgroup
10632 }
10633 \def\@CheckBox[#1]#2{% parameters, label
10634     \def\Fld@name{#2}%
10635     \def\Fld@default{0}%
10636     \begingroup
10637         \def\Fld@width{\DefaultWidthofCheckBox}%
10638         \def\Fld@height{\DefaultHeightofCheckBox}%
10639         \Field@toks={ }%
10640         \expandafter\HyField@SetKeys\expandafter{%
10641             \DefaultOptionsofCheckBox,#1%
10642         }%
10643         \PDFForm@Name
10644         \HyField@FlagsCheckBox
10645         \ifFld@hidden\def\Fld@width{1sp}\fi
10646         \LayoutCheckField{#2}{%
10647             \Hy@escapeform\PDFForm@Check
10648             \pdfstartlink user {\PDFForm@Check}\relax
10649             \MakeCheckField{\Fld@width}{\Fld@height}%
10650             \pdfendlink
10651         }%
10652     \endgroup
10653 }
10654 \pdfobj {%
10655     <<%
10656     /Type/Encoding%
10657     /Differences[%
10658         24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
10659         /ring/tilde %
10660         39/quotesingle %
10661         96/grave %
10662         128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
10663         /fraction/guilsinglleft/guilsinglright/minus/perthousand%
10664         /quotedblbase/quotedblleft/quotedblright/quoteleft%
10665         /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
10666         /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
10667         164/currency %
10668         166/brokenbar %
10669         168/dieresis/copyright/ordfeminine %
10670         172/logicalnot/.notdef/registered/macron/degree/plusminus%
10671         /twosuperior/threesuperior/acute/mu %
10672         183/periodcentered/cedilla/onesuperior/ordmasculine %
10673         188/onequarter/onehalf/threequarters %
10674         192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
10675         /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
10676         /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
10677         /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
10678         /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
10679         /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
10680         /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
10681         /iacute/icircumflex/idieresis/eth/ntilde/ograve/oacute%
10682         /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
10683         /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%

```

```

10684    ]%
10685    >>%
10686 }
10687 \edef\OBJ@pdfdocencoding{\the\pdflastobj}
10688 \pdfobj{%
10689   <<%
10690     /Type/Font%
10691     /Subtype/Type1%
10692     /Name/ZaDb%
10693     /BaseFont/ZapfDingbats%
10694   >>%
10695 }
10696 \edef\OBJ@ZaDb{\the\pdflastobj}
10697 \pdfobj{%
10698   <<%
10699     /Type/Font%
10700     /Subtype/Type1%
10701     /Name/Helv%
10702     /BaseFont/Helvetica%
10703     /Encoding \OBJ@pdfdocencoding\space 0 R%
10704   >>%
10705 }
10706 \edef\OBJ@Helv{\the\pdflastobj}
10707 \pdfobj{%
10708   <<%
10709     /Fields[]%
10710     /DR<<%
10711       /Font<<%
10712         /ZaDb \OBJ@ZaDb\space 0 R%
10713         /Helv \OBJ@Helv\space 0 R%
10714       >>%
10715     >>%
10716     /DA(/Helv 10 Tf 0 g)%
10717     \ifHy@pdfa
10718     \else
10719       /NeedAppearances true%
10720     \fi
10721   >>%
10722 }
10723 \edef\OBJ@acroform{\the\pdflastobj}
10724 \pdfobj{</pdfobj>}

```

47.6 dvipdfm

D. P. Story adapted the pdfTeX forms part for dvipdfm, of which version 0.12.7b or higher is required because of a bug.

```
10725 <*dvipdfm>
```

\@Gauge

```

10726 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10727   \typeout{Sorry, dvipdfm does not support FORM gauges}%
10728 }

```

\@Form

```

10729 \def\@Form[#1]{%
10730   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
10731   \setkeys{Form}{#1}%

```

```

10732 \@pdfm@mark{obj @afields []}%
10733 \@pdfm@mark{obj @corder []}%
10734 \@pdfm@mark{%
10735     obj @aform <<%
10736     /Fields @afields%
10737     /DR<<%
10738     /Font<<%
10739     /ZaDb @OBJZaDb%
10740     /Helv @OBJHelv%
10741     >>%
10742     >>%
10743     /DA(/Helv 10 Tf 0 g)%
10744     /CO @corder%
10745     \ifHy@pdfa
10746     \else
10747     /NeedAppearances true%
10748     \fi
10749     >>%
10750 }%
10751 \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
10752 }

\@endForm

10753 \def\@endForm{ }

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.
10754 \def\dvipdfm@setdim{%
10755     height \the\ht\pdfm@box\space
10756     width \the\wd\pdfm@box\space
10757     depth \the\dp\pdfm@box\space
10758 }

\HyField@AnnotCount
10759 \newcount\HyField@AnnotCount
10760 \HyField@AnnotCount=\z@

\HyField@AdvanceAnnotCount
10761 \def\HyField@AdvanceAnnotCount{%
10762     \global\advance\HyField@AnnotCount\@ne
10763 }

\HyField@TheAnnotCount
10764 \def\HyField@TheAnnotCount{%
10765     \the\HyField@AnnotCount
10766 }

\@TextField
10767 \def\@TextField[#1]#2{% parameters, label
10768     \def\Fld@name{#2}%
10769     \def\Fld@default{ }%
10770     \let\Fld@value\@empty
10771     \def\Fld@width{\DefaultWidthofText}%
10772     \def\Fld@height{%
10773         \ifFld@multiline
10774             \DefaultHeightofTextMultiline
10775         \else

```

```

10776     \DefaultHeightofText
10777     \fi
10778 }%
10779 \beginngroup
10780     \Field@toks={ }%
10781     \expandafter\HyField@SetKeys\expandafter{%
10782         \DefaultOptionsofText,#1%
10783     }%
10784     \PDFForm@Name
10785     \HyField@FlagsText
10786     \ifFld@hidden\def\Fld@width{1sp}\fi
10787     \ifx\Fld@value\empty\def\Fld@value{\Fld@default}\fi
10788     \setbox\pdfm@box=\hbox{%
10789         \MakeTextField{\Fld@width}{\Fld@height}%
10790     }%
10791     \HyField@AdvanceAnnotCount
10792     \LayoutTextField{#2}{%
10793         \Hy@escapeform\PDFForm@Text
10794         \@pdfm@mark{%
10795             ann @text\HyField@TheAnnotCount\space
10796             \dvipdfm@setdim << \PDFForm@Text >>%
10797         }%
10798     }%
10799     \unhbox\pdfm@box
10800     \@pdfm@mark{put @afields @text\HyField@TheAnnotCount}%
10801     % record in @afields array
10802 \endgroup
10803 }

```

\@ChoiceMenu

```

10804 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10805     \def\Fld@name{#2}%
10806     \let\Fld@default\relax
10807     \let\Fld@value\relax
10808     \def\Fld@width{\DefaultWidthofChoiceMenu}%
10809     \def\Fld@height{\DefaultHeightofChoiceMenu}%
10810     \beginngroup
10811         \Fld@menulength=0 %
10812         \@tempdima\z@
10813         \@for\@curropt:=#3\do{%
10814             \expandafter\Fld@checkequals\@curropt==\%
10815             \Hy@StepCount\Fld@menulength
10816             \settowidth{\@tempdimb}{\@currDisplay}%
10817             \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
10818         }%
10819         \advance\@tempdima by 15\p@
10820         \Field@toks={ }%
10821         \beginngroup
10822             \HyField@SetKeys{#1}%
10823         \edef\x{\endgroup
10824             \noexpand\expandafter
10825             \noexpand\HyField@SetKeys
10826             \noexpand\expandafter{%
10827                 \expandafter\noexpand\cname DefaultOptionsof%
10828                 \ifFld@radio
10829                     Radio%
10830                 \else

```

```

10831         \ifFld@combo
10832         \ifFld@popdown
10833         PopdownBox%
10834         \else
10835         ComboBox%
10836         \fi
10837     \else
10838     ListBox%
10839     \fi
10840 \fi
10841 \endcsname
10842 }%
10843 }\x
10844 \HyField@SetKeys{#1}%
10845 \PDFForm@Name
10846 \ifFld@hidden\def\Fld@width{1sp}\fi
10847 \ifx\Fld@value\relax
10848     \let\Fld@value\Fld@default
10849 \fi
10850 \LayoutChoiceField{#2}{%
10851     \ifFld@radio
10852     \HyField@FlagsRadioButton
10853     \@@Radio{#3}%
10854     \else
10855     \beginngroup
10856     \HyField@FlagsChoice
10857     \ifdim\Fld@width<\@tempdima
10858     \ifdim\@tempdima<1cm\@tempdima1cm\fi
10859     \edef\Fld@width{\the\@tempdima}%
10860     \fi
10861     \ifFld@combo
10862     \else
10863     \@tempdima=\the\Fld@menulength\Fld@charsize
10864     \advance\@tempdima by \Fld@borderwidth bp %
10865     \advance\@tempdima by \Fld@borderwidth bp %
10866     \edef\Fld@height{\the\@tempdima}%
10867     \fi
10868     \@@Listbox{#3}%
10869     \endgroup
10870 \fi
10871 }%
10872 \endgroup
10873 }

```

\@@Radio

```

10874 \def\@@Radio#1{%
10875     \Fld@listcount=0 %
10876     \setbox\pdfm@box=\hbox{\MakeRadioField{\Fld@width}{\Fld@height}}%
10877     \@for\@curropt:=#1\do{%
10878         \expandafter\Fld@checkequals\@curropt==\%
10879         \Hy@StepCount\Fld@listcount
10880         \currDisplay\space
10881         \leavevmode
10882         \Hy@escapeform\PDFForm@Radio
10883         \ifnum\Fld@listcount=1 %
10884         \HyField@AdvanceAnnotCount
10885         \fi

```

```

10886 \pdfmark{%
10887   ann \ifnum\Fld@listcount=1 @radio\HyField@TheAnnotCount\space\fi
10888   \dvipdfm@setdim
10889   <<%
10890   \PDFForm@Radio
10891   /AP<</N<</\@currValue /null>>>>%
10892   >>%
10893   }%
10894   \unhcopy\pdfm@box\space% deliberate space between radio buttons
10895   \ifnum\Fld@listcount=1 %
10896   \pdfmark{put @afields @radio\HyField@TheAnnotCount}%
10897   \fi
10898   }%
10899 }

```

\Fld@listcount

```

10900 \newcount\Fld@listcount

```

\@@ListBox

```

10901 \def\@@ListBox#1{%
10902   \HyField@PDFChoices{#1}%
10903   \setbox\pdfm@box=\hbox{\MakeChoiceField{\Fld@width}{\Fld@height}}%
10904   \leavevmode
10905   \Hy@escapeform\PDFForm@List
10906   \HyField@AdvanceAnnotCount
10907   \pdfmark{%
10908     ann @list\HyField@TheAnnotCount\space
10909     \dvipdfm@setdim
10910     <<\PDFForm@List>>%
10911   }%
10912   \unhbox\pdfm@box
10913   \pdfmark{put @afields @list\HyField@TheAnnotCount}%
10914 }

```

\@PushButton

```

10915 \def\@PushButton[#1]#2{% parameters, label
10916   \def\Fld@name{#2}%
10917   \begingroup
10918     \Field@toks={ }%
10919     \expandafter\HyField@SetKeys\expandafter{%
10920       \DefaultOptionsofPushButton,#1%
10921     }%
10922     \PDFForm@Name
10923     \ifHy@pdfa
10924       \PackageError{hyperref}{%
10925         PDF/A: Push button with JavaScript is prohibited%
10926       }\@ehc
10927       \LayoutPushButtonField{%
10928         \leavevmode
10929         \MakeButtonField{#2}%
10930       }%
10931     \else
10932       \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
10933       \HyField@FlagsPushButton
10934       \ifFld@hidden\def\Fld@width{1sp}\fi
10935       \HyField@AdvanceAnnotCount
10936       \LayoutPushButtonField{%

```

```

10937         \leavevmode
10938         \Hy@escapeform\PDFForm@Push
10939         \@pdfm@mark{%
10940             ann @push\HyField@TheAnnotCount\space
10941             \dvipdfm@setdim
10942             <<\PDFForm@Push>>%
10943         }%
10944     }%
10945     \unhbox\pdfm@box
10946     \@pdfm@mark{put @afields @push\HyField@TheAnnotCount}%
10947     \fi
10948 \endgroup
10949 }

\@Submit
10950 \def\@Submit[#1]#2{%
10951     \Field@toks={ }%
10952     \def\Fld@width{\DefaultWidthofSubmit}%
10953     \def\Fld@height{\DefaultHeightofSubmit}%
10954     \begingroup
10955         \expandafter\HyField@SetKeys\expandafter{%
10956             \DefaultOptionsofSubmit,#1%
10957         }%
10958         \HyField@FlagsPushButton
10959         \HyField@FlagsSubmit
10960         \ifFld@hidden\def\Fld@width{1sp}\fi
10961         \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
10962         \leavevmode
10963         \Hy@escapeform\PDFForm@Submit
10964         \HyField@AdvanceAnnotCount
10965         \@pdfm@mark{%
10966             ann @submit\HyField@TheAnnotCount\space
10967             \dvipdfm@setdim
10968             <<\PDFForm@Submit>>%
10969         }%
10970         \unhbox\pdfm@box%
10971         \@pdfm@mark{put @afields @submit\HyField@TheAnnotCount}%
10972     \endgroup
10973 }

\@Reset
10974 \def\@Reset[#1]#2{%
10975     \Field@toks={ }%
10976     \def\Fld@width{\DefaultWidthofReset}%
10977     \def\Fld@height{\DefaultHeightofReset}%
10978     \begingroup
10979         \expandafter\HyField@SetKeys\expandafter{%
10980             \DefaultOptionsofReset,#1%
10981         }%
10982         \leavevmode
10983         \ifHy@pdfa
10984             \PackageError{hyperref}{%
10985                 PDF/A: Reset action is prohibited%
10986             }\@ehc
10987             \MakeButtonField{#2}%
10988         \else
10989             \HyField@FlagsPushButton

```

```

10990 \ifFld@hidden\def\Fld@width{1sp}\fi
10991 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
10992 \Hy@escapeform\PDFForm@Reset
10993 \HyField@AdvanceAnnotCount
10994 \@pdfm@mark{%
10995     ann @reset\HyField@TheAnnotCount\space
10996     \dvipdfm@setdim
10997     <<\PDFForm@Reset>>%
10998 }%
10999 \unhbox\pdfm@box
11000 \@pdfm@mark{put @afields @reset\HyField@TheAnnotCount}%
11001 \fi
11002 \endgroup
11003 }

```

\@CheckBox

```

11004 \def\@CheckBox[#1]#2{% parameters, label
11005 \def\Fld@name{#2}%
11006 \def\Fld@default{0}%
11007 \begingroup
11008 \def\Fld@width{\DefaultWidthofCheckBox}%
11009 \def\Fld@height{\DefaultHeightofCheckBox}%
11010 \Field@toks={ }%
11011 \expandafter\HyField@SetKeys\expandafter{%
11012 \DefaultOptionsofCheckBox,#1%
11013 }%
11014 \PDFForm@Name
11015 \HyField@FlagsCheckBox
11016 \ifFld@hidden\def\Fld@width{1sp}\fi
11017 \setbox\pdfm@box=\hbox{\MakeCheckField{\Fld@width}{\Fld@height}}%
11018 \HyField@AdvanceAnnotCount
11019 \LayoutCheckField{#2}{%
11020 \Hy@escapeform\PDFForm@Check
11021 \@pdfm@mark{%
11022     ann @check\HyField@TheAnnotCount\space
11023     \dvipdfm@setdim
11024     <<\PDFForm@Check>>%
11025 }%
11026 \unhbox\pdfm@box
11027 \@pdfm@mark{put @afields @check\HyField@TheAnnotCount}%
11028 }%
11029 \endgroup
11030 }

11031 \@pdfm@mark{obj @OBJpdfdocencoding%
11032 <<%
11033 /Type/Encoding%
11034 /Differences[%
11035     24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
11036     39/quotesingle %
11037     96/grave %
11038     128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
11039     /fraction/guilsinglleft/guilsinglright/minus/perthousand%
11040     /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
11041     /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
11042     /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
11043     164/currency %
11044     166/brokenbar %

```



```

11045      168/dieresis/copyright/ordfeminine %
11046      172/logicalnot/.notdef/registered/macron/degree/plusminus%
11047      /twosuperior/threesuperior/acute/mu %
11048      183/periodcentered/cedilla/onesuperior/ordmasculine %
11049      188/onequarter/onehalf/threequarters %
11050      192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
11051      /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
11052      /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
11053      /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
11054      /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
11055      /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
11056      /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
11057      /eth/ntilde/ograve/oacute/ocircumflex/otilde/odieresis%
11058      /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
11059      /thorn/ydieresis%
11060      ]%
11061      >>%
11062 }
11063 \pdfmark{obj @OBJZaDb%
11064 <<%
11065     /Type/Font%
11066     /Subtype/Type1%
11067     /Name/ZaDb%
11068     /BaseFont/ZapfDingbats%
11069     >>%
11070 }
11071 \pdfmark{obj @OBJHelv%
11072 <<%
11073     /Type/Font%
11074     /Subtype/Type1%
11075     /Name/Helv%
11076     /BaseFont/Helvetica%
11077     /Encoding @OBJpdfdocencoding%
11078     >>%
11079 }
11080 </dvipdfm>

```

47.7 Common forms part

```
11081 <*pdfform>
```

\Hy@escapestring

```

11082 \begingroup\expandafter\expandafter\expandafter\endgroup
11083 \expandafter\ifx\csname pdfescapestring\endcsname\relax
11084   \let\Hy@escapestring\@firstofone
11085   \def\Hy@escapeform#1{%
11086     \ifHy@escapeform
11087       \def\Hy@escapestring##1{%
11088         \noexpand\Hy@escapestring{\noexpand##1}%
11089       }%
11090     \edef\Hy@temp{#1}%
11091     \expandafter\Hy@@escapeform\Hy@temp\Hy@escapestring{}\@nil
11092     \def\Hy@escapestring##1{%
11093       \@ifundefined{Hy@esc@\string##1}{%
11094         ##1%
11095       }\ThisShouldNotHappen
11096     }{%

```

```

11097         \csname Hy@esc@\string##1\endcsname
11098     }%
11099 }%
11100 \else
11101     \let\Hy@escapestring\@firstofone
11102 \fi
11103 }%
11104 \def\Hy@@escapeform#1\Hy@escapestring#2#3\@nil{%
11105     \ifx\#3\%
11106     \else
11107         \expandafter\Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
11108         \Hy@ReturnAfterFi{%
11109             \Hy@@escapeform#3\@nil
11110         }%
11111     \fi
11112 }%
11113 \else
11114 \def\Hy@escapeform#1{%
11115     \ifHy@escapeform
11116         \let\Hy@escapestring\pdfescapestring
11117     \else
11118         \let\Hy@escapestring\@firstofone
11119     \fi
11120 }%
11121 \Hy@escapeform{}}%
11122 \fi

```

\PDFForm@Name

```

11123 \def\PDFForm@Name{%
11124     \begingroup
11125         \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
11126             \ifHy@unicode
11127                 \Hy@unicodedefalse
11128             \fi
11129         \fi
11130         \pdfstringdef\Hy@gtemp\Fld@name
11131     \endgroup
11132     \let\Fld@name\Hy@gtemp
11133 }

```

\PDFForm@Check

```

11134 \def\PDFForm@Check{%
11135     /Subtype/Widget%
11136     \Fld@annotflags
11137     /T(\Fld@name)%
11138     /FT/Btn%
11139     \Fld@flags
11140     /Q \Fld@align
11141     /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
11142     /MK<<%
11143         \ifnum\Fld@rotation=\z@
11144         \else
11145             /R \Fld@rotation
11146         \fi
11147         \ifx\Fld@bordercolor\relax
11148         \else
11149             /BC[\Fld@bordercolor]%

```

```

11150 \fi
11151 \ifx\Fld@bcolor\relax
11152 \else
11153 /BG[\Fld@bcolor]%
11154 \fi
11155 /CA(\Hy@escapestring{\Fld@cbsymbol})%
11156 >>%
11157 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
11158 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11159 /H/P%
11160 \ifFld@checked /V/Yes\else /V/Off\fi
11161 }

```

\PDFForm@Push

```

11162 \ifHy@pdfa
11163 \else
11164 \def\PDFForm@Push{%
11165 /Subtype/Widget%
11166 \Fld@annotflags
11167 /T(\Fld@name)%
11168 /FT/Btn%
11169 \Fld@flags
11170 /H/P%
11171 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11172 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11173 \ifx\Fld@bordercolor\relax\else 1\fi
11174 \space
11175 \else
11176 /MK<<%
11177 \ifnum\Fld@rotation=\z@
11178 \else
11179 /R \Fld@rotation
11180 \fi
11181 \ifx\Fld@bordercolor\relax
11182 \else
11183 /BC[\Fld@bordercolor]%
11184 \fi
11185 >>%
11186 \fi
11187 /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick})>>%
11188 }%
11189 \fi

```

\Fld@additionalactions

```

11190 \def\Fld@@additionalactions{%
K input (keystroke) format
11191 \ifx\Fld@keystroke@code\@empty
11192 \else
11193 /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
11194 \fi
F display format
11195 \ifx\Fld@format@code\@empty
11196 \else
11197 /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
11198 \fi

```

V validation

```
11199 \ifx\Fld@validate@code\@empty
11200 \else
11201 /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
11202 \fi
```

C calculation

```
11203 \ifx\Fld@calculate@code\@empty
11204 \else
11205 /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
11206 \fi
```

Fo receiving the input focus

```
11207 \ifx\Fld@onfocus@code\@empty
11208 \else
11209 /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
11210 \fi
```

Bl loosing the input focus (blurred)

```
11211 \ifx\Fld@onblur@code\@empty
11212 \else
11213 /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
11214 \fi
```

D pressing the mouse button (down)

```
11215 \ifx\Fld@onmousedown@code\@empty
11216 \else
11217 /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
11218 \fi
```

U releasing the mouse button (up)

```
11219 \ifx\Fld@onmouseup@code\@empty
11220 \else
11221 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
11222 \fi
```

E cursor enters the annotation's active area.

```
11223 \ifx\Fld@onenter@code\@empty
11224 \else
11225 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
11226 \fi
```

X cursor exits the annotation's active area.

```
11227 \ifx\Fld@onexit@code\@empty
11228 \else
11229 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
11230 \fi
```

```
11231 }
```

```
11232 \def\Fld@additionalactions{%
11233 \if-\Fld@@additionalactions-%
11234 \else
11235 \ifHy@pdfa
11236 \else
11237 /AA<<\Fld@@additionalactions>>%
11238 \fi
11239 \fi
11240 }
```

\PDFForm@List

```
11241 \def\PDFForm@List{%
```

```

11242 /Subtype/Widget%
11243 \Fld@annotflags
11244 /T(\Fld@name)%
11245 /FT/Ch%
11246 \Fld@flags
11247 /Q \Fld@align
11248 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11249 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11250 \ifx\Fld@bordercolor\relax\else 1\fi
11251 \ifx\Fld@bcolor\relax \else 1\fi
11252 \space
11253 \else
11254 /MK<<%
11255 \ifnum\Fld@rotation=\z@
11256 \else
11257 /R \Fld@rotation
11258 \fi
11259 \ifx\Fld@bordercolor\relax
11260 \else
11261 /BC[\Fld@bordercolor]%
11262 \fi
11263 \ifx\Fld@bcolor\relax
11264 \else
11265 /BG[\Fld@bcolor]%
11266 \fi
11267 >>%
11268 \fi
11269 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
11270 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11271 \Fld@choices
11272 \Fld@additionalactions
11273 }

```

\PDFForm@Radio

```

11274 \def\PDFForm@Radio{%
11275 /Subtype/Widget%
11276 \Fld@annotflags
11277 /T(\Fld@name)%
11278 /FT/Btn%
11279 \Fld@flags
11280 /H/P%
11281 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
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 /CA(H)%
11296 >>%

```

```

11297 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
11298 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11299 \ifx\@currValue\Fld@default
11300 /V/\Fld@default
11301 \else
11302 /V/Off%
11303 \fi
11304 \Fld@additionalactions
11305 }

```

\PDFForm@Text

```

11306 \def\PDFForm@Text{%
11307 /Subtype/Widget%
11308 \Fld@annotflags
11309 /T(\Fld@name)%
11310 /FT/Tx%
11311 \Fld@flags
11312 /Q \Fld@align
11313 /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
11314 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11315 \ifx\Fld@bordercolor\relax\else 1\fi
11316 \ifx\Fld@bcolor\relax \else 1\fi
11317 \space
11318 \else
11319 /MK<<%
11320 \ifnum\Fld@rotation=\z@
11321 \else
11322 /R \Fld@rotation
11323 \fi
11324 \ifx\Fld@bordercolor\relax
11325 \else
11326 /BC[\Fld@bordercolor]%
11327 \fi
11328 \ifx\Fld@bcolor\relax
11329 \else
11330 /BG[\Fld@bcolor]%
11331 \fi
11332 >>%
11333 \fi
11334 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
11335 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11336 /DV(\Hy@escapestring{\Fld@default})%
11337 /V(\Hy@escapestring{\Fld@value})%
11338 \Fld@additionalactions
11339 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
11340 }

```

\PDFForm@Submit

```

11341 \def\PDFForm@Submit{%
11342 /Subtype/Widget%
11343 \Fld@annotflags
11344 /T(\Fld@name)%
11345 /FT/Btn%
11346 \Fld@flags
11347 /H/P%
11348 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11349 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi

```

```

11350         \ifx\Fld@bordercolor\relax\else 1\fi
11351         \space
11352     \else
11353         /MK<<%
11354         \ifnum\Fld@rotation=\z@
11355         \else
11356             /R \Fld@rotation
11357         \fi
11358         \ifx\Fld@bordercolor\relax
11359         \else
11360             /BC[\Fld@bordercolor]%
11361         \fi
11362         >>%
11363     \fi
11364     /A<<%
11365     /S/SubmitForm%
11366     /F<<%
11367     /FS/URL%
11368     /F(\Hy@escapestring{\Form@action})%
11369     >>%
11370     \Fld@submitflags
11371     >>%
11372 }

```

\PDFForm@Reset

```

11373 \ifHy@pdfa
11374 \else
11375     \def\PDFForm@Reset{%
11376         /Subtype/Widget%
11377         \Fld@annotflags
11378         /T(\Fld@name)%
11379         /FT/Btn%
11380         \Fld@flags
11381         /H/P%
11382         /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
11383         \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11384             \ifx\Fld@bordercolor\relax\else 1\fi
11385             \space
11386         \else
11387             /MK<<%
11388             \ifnum\Fld@rotation=\z@
11389             \else
11390                 /R \Fld@rotation
11391             \fi
11392             \ifx\Fld@bordercolor\relax
11393             \else
11394                 /BC[\Fld@bordercolor]%
11395             \fi
11396         % /CA (Clear)
11397         % /AC (Done)
11398         >>%
11399     \fi
11400     /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11401     /A<</S/ResetForm>>%
11402 }%
11403 \fi
11404 \pdfform>

```

11405 \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`

```
11406 \def\phantomsection{%
11407   \Hy@GlobalStepCount\Hy@linkcounter
11408   \xdef\@currentHref{section*.\the\Hy@linkcounter}%
11409   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
11410 }
11411  $\langle$ /package $\rangle$ 
```

48.1 Bookmarks

11412 \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`.

```
11413 \def\Hy@writebookmark#1#2#3#4#5{%
11414   % section number, text, label, level, file
11415   \ifx\WriteBookmarks\relax%
11416   \else
11417     \ifnum#4>\Hy@bookmarksdepth\relax
11418     \else
11419       \@writetorep{#1}{#2}{#3}{#4}{#5}%
11420     \fi
11421   \fi
11422 }
11423 \def\Hy@currentbookmarklevel{0}
11424 \def\Hy@numberline#1{#1 }
11425 \def\@writetorep#1#2#3#4#5{%
11426   \begingroup
11427     \edef\Hy@tempa{#5}%
11428     \ifx\Hy@tempa\Hy@bookmarkstype
11429       \edef\Hy@level{#4}%
11430       \ifx\Hy@levelcheck Y%
11431         \@tempcnta\Hy@level\relax
11432         \advance\@tempcnta by -1 %
11433         \ifnum\Hy@currentbookmarklevel<\@tempcnta
11434           \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
11435           \advance\@tempcnta by 1 %
11436           \Hy@Warning{%
11437             Difference (\the\@tempcnta) between bookmark levels is %
11438             greater \MessageBreak than one, level fixed%
11439           }%

```



```

11440         \@tempcnta\Hy@currentbookmarklevel
11441         \advance\@tempcnta by 1 %
11442         \edef\Hy@level{\the\@tempcnta}%
11443     \fi
11444 \else
11445     \global\let\Hy@levelcheck Y%
11446 \fi
11447 \global\let\Hy@currentbookmarklevel\Hy@level
11448 \@tempcnta\Hy@level\relax
11449 \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
11450 \advance\@tempcnta by -1 %
11451 \edef\Hy@tempa{#3}%
11452 \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
11453 \ifx\Hy@tempa\Hy@tempb
11454     \Hy@Warning{%
11455         The anchor of a bookmark and its parent's must not%
11456         \MessageBreak be the same. Added a new anchor%
11457     }%
11458     \phantomsection
11459 \fi
11460 \ifHy@bookmarksnumbered
11461     \let\numberline\Hy@numberline
11462     \let\partnumberline\Hy@numberline
11463     \let\chapternumberline\Hy@numberline
11464 \else
11465     \let\numberline\@gobble
11466     \let\partnumberline\@gobble
11467     \let\chapternumberline\@gobble
11468 \fi
11469 \pdfstringdef\Hy@tempa{#2}%
11470 \if@filesw
11471     \protected@write\@outlinefile{}{%
11472         \protect\BOOKMARK
11473         [\Hy@level] [\@bookmarkopenstatus{\Hy@level}] {#3}%
11474         {\Hy@tempa}{\Hy@tempb}%
11475     }%
11476 \fi
11477 \fi
11478 \endgroup
11479 }

```

In the call of \BOOKMARK the braces around #4 are omitted, because it is not likely, that the level number contains].

```

11480 \newcommand{\currentpdfbookmark}{%
11481     \pdfbookmark[\Hy@currentbookmarklevel]%
11482 }
11483 \newcommand{\subpdfbookmark}{%
11484     \@tempcnta\Hy@currentbookmarklevel
11485     \Hy@StepCount\@tempcnta
11486     \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
11487 }
11488 \newcommand{\belowpdfbookmark}[2]{%
11489     \@tempcnta\Hy@currentbookmarklevel
11490     \Hy@StepCount\@tempcnta
11491     \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
11492     \advance\@tempcnta by -1 %
11493     \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
11494 }

```

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.

```

11495 \renewcommand\pdfbookmark[3][0]{%
11496   \Hy@writebookmark{#2}{#3.#1}{#1}{toc}%
11497   \hyper@anchorstart{#3.#1}\hyper@anchorend
11498 }
11499 \def\BOOKMARK{\ifnextchar[{\@BOOKMARK}{\@@BOOKMARK[1][-]}}
11500 \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.

```

11501 \<vtex>
11502 \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.

```

11503 \begingroup
11504   \catcode'\'=12 %
11505   \ifnum\Hy@VTeXversion<650 %
11506     \catcode'\'=12 %
11507     \gdef\hv@pdf@char#1#2#3{%
11508       \char
11509       \ifcase'#1#2#3 %
11510         "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
11511         \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
11512         \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
11513         \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
11514         \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
11515         \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
11516         \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
11517         \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
11518         \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
11519         \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
11520         \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
11521         \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
11522         \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
11523         \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
11524         \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
11525         \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
11526         \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
11527         \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
11528         \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
11529         \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
11530         \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
11531         \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
11532         \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
11533         \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
11534         \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
11535         \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
11536         \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
11537         \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%

```

```

11538 \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
11539 \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
11540 \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
11541 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
11542 \fi
11543 }%
11544 \else
11545 \gdef\hv@pdf@char{\char'}%
11546 \fi
11547 \endgroup

```

\@@BOOKMARK

```

11548 \def\@@BOOKMARK[#1][#2]#3#4#5{%
11549 \expandafter\edef\csname @count@#3\endcsname{\the\@serial@counter}%
11550 \edef\@mycount{\the\@serial@counter}%
11551 \Hy@StepCount\@serial@counter
11552 \edef\@parcount{%
11553 \expandafter\ifx\csname @count@#5\endcsname\relax
11554 0%
11555 \else
11556 \csname @count@#5\endcsname
11557 \fi
11558 }%
11559 \immediate\special{%
11560 !outline #3;p=\@parcount,i=\@mycount,%
11561 s=\ifx#2-c\else o\fi,t=#4%
11562 }%
11563 }%

```

\ReadBookmarks

```

11564 \def\ReadBookmarks{%
11565 \begingroup
11566 \def\O{\hv@pdf@char 0}%
11567 \def\1{\hv@pdf@char 1}%
11568 \def\2{\hv@pdf@char 2}%
11569 \def\3{\hv@pdf@char 3}%
11570 \def\({}%
11571 \def\)}%
11572 \def\do##1{%
11573 \ifnum\the\catcode'##1=\active
11574 \makeother##1%
11575 \fi
11576 }%
11577 \dospecials
11578 \InputIfFileExists{\jobname.out}{-}{-}%
11579 \endgroup
11580 \ifx\WriteBookmarks\relax
11581 \else
11582 \if@filesw
11583 \newwrite\@outlinefile
11584 \immediate\openout\@outlinefile=\jobname.out\relax
11585 \ifHy@typexml
11586 \immediate\write\@outlinefile{<relaxxml>\relax}%
11587 \fi
11588 \fi
11589 \fi
11590 }

```

```

11591 </vtex>
11592 <!*vtex>
11593 \def\ReadBookmarks{%
11594   \begingroup
11595     \escapechar='\\%
11596     \let\escapechar\@gobble %
11597     \def\@@BOOKMARK[##1][##2]###4##5{\calc@bm@number{##5}}%
11598     \InputIfFileExists{\jobname.out}{-}{-}%
11599     \ifx\WriteBookmarks\relax
11600       \global\let\WriteBookmarks\relax
11601     \fi
11602     \def\@@BOOKMARK[##1][##2]###4##5{%
11603       \def\Hy@temp{##4}%
11604 <*pdftex>
11605     \Hy@pstringdef\Hy@pstringName{##3}%
11606     \Hy@OutlineName{}\Hy@pstringName{%
11607       ##2\check@bm@number{##3}%
11608     }{%
11609       \expandafter\strip@prefix\meaning\Hy@temp
11610     }%
11611 </pdftex>
11612 <*pdfmark>
11613     \Hy@pstringdef\Hy@pstringName{##3}%
11614     \pdfmark{%
11615       pdfmark=/OUT,%
11616       Count={##2\check@bm@number{##3}},%
11617       Dest={\Hy@pstringName},%
11618       Title=\expandafter\strip@prefix\meaning\Hy@temp
11619     }%
11620 </pdfmark>
11621 <*dvipdfm>
11622     \Hy@pstringdef\Hy@pstringName{##3}%
11623     \@pdfm@mark{%
11624       outline \ifHy@DvipdfmxOutlineOpen
11625         [%
11626         \ifnum##21>\z@
11627         \else
11628         -%
11629         \fi
11630         ] %
11631       \fi
11632       ##1<<%
11633       /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
11634       /A<<%
11635       /S/GoTo%
11636       /D(\Hy@pstringName)%
11637       >>%
11638     >>%
11639     }%
11640 </dvipdfm>
11641   }%
11642   {%
11643     \def\WriteBookmarks{0}%
11644     \InputIfFileExists{\jobname.out}{-}{-}%
11645   }%
11646   {%\escapechar\m@ne\InputIfFileExists{\jobname.out}{-}{-}}%
11647   \ifx\WriteBookmarks\relax

```

```

11648 \else
11649 \if@filesw
11650 \newwrite\@outlinefile
11651 \immediate\openout\@outlinefile=\jobname.out\relax
11652 \ifHy@typexml
11653 \immediate\write\@outlinefile{<relaxxml>\relax}%
11654 \fi
11655 \fi
11656 \fi
11657 \endgroup
11658 }
11659 <*pdfTeX>
11660 \def\Hy@OutlineName#1#2#3#4{%
11661 \pdfoutline goto name{#2}count#3{#4}%
11662 }
11663 </pdfTeX>
11664 \def\check@bm@number#1{%
11665 \expandafter\ifx\csname B_#1\endcsname\relax
11666 0%
11667 \else
11668 \csname B_#1\endcsname
11669 \fi
11670 }
11671 \def\calc@bm@number#1{%
11672 \@tempcnta=\check@bm@number{#1}\relax
11673 \advance\@tempcnta by 1 %
11674 \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
11675 }
11676 </!vTeX>

11677 \ifHy@implicit
11678 \else
11679 \expandafter\endinput
11680 \fi

11681 </outlines>
11682 <*outlines | hypertex>

11683 \let\H@old@ssect\@ssect
11684 \def\@ssect#1#2#3#4#5{%
11685 \H@old@ssect{#1}{#2}{#3}{#4}{#5}%
11686 \phantomsection
11687 }
11688 \let\H@old@schapter\@schapter
11689 \def\@schapter#1{%
11690 \H@old@schapter{#1}%
11691 \begingroup
11692 \let\@mkboth\@gobbletwo
11693 \Hy@GlobalStepCount\Hy@linkcounter
11694 \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
11695 \Hy@raisedlink{%
11696 \hyper@anchorstart{\@currentHref}\hyper@anchorend
11697 }%
11698 \endgroup
11699 }

```

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:

```

11700 \ifundefined{@chapter}{\%
11701   \let\Hy@org@chapter\@chapter
11702   \def\@chapter{%
11703     \def\Hy@next{%
11704       \Hy@GlobalStepCount\Hy@linkcounter
11705       \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
11706       \Hy@raisedlink{%
11707         \hyper@anchorstart{\@currentHref}\hyper@anchorend
11708       }%
11709     }%
11710     \ifnum\c@secnumdepth>\m@ne
11711       \@ifundefined{if@mainmatter}%
11712       \iftrue{\csname if@mainmatter\endcsname}%
11713       \let\Hy@next\relax
11714     \fi
11715   \fi
11716   \Hy@next
11717   \Hy@org@chapter
11718 }%
11719 }

11720 \let\H@old@part\@part
11721 \begingroup\expandafter\expandafter\expandafter\endgroup
11722 \expandafter\ifx\csname chapter\endcsname\relax
11723   \let\Hy@secnum@part\z@
11724 \else
11725   \let\Hy@secnum@part\m@ne
11726 \fi
11727 \def\@part{%
11728   \ifnum\Hy@secnum@part>\c@secnumdepth
11729     \phantomsection
11730   \fi
11731   \H@old@part
11732 }

11733 \let\H@old@spart\@spart
11734 \def\@spart#1{%
11735   \H@old@spart{#1}%
11736   \Hy@GlobalStepCount\Hy@linkcounter
11737   \xdef\@currentHref{part*.\the\Hy@linkcounter}%
11738   \Hy@raisedlink{%
11739     \hyper@anchorstart{\@currentHref}\hyper@anchorend
11740   }%
11741 }

11742 \let\H@old@sect\@sect
11743 \def\@sect#1#2#3#4#5#6[#7]#8{%
11744   \ifnum #2>\c@secnumdepth
11745     \Hy@GlobalStepCount\Hy@linkcounter
11746     \xdef\@currentHref{section*.\the\Hy@linkcounter}%
11747   \fi
11748   \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[#7]{#8}%
11749   \ifnum #2>\c@secnumdepth
11750     \Hy@raisedlink{%
11751       \hyper@anchorstart{\@currentHref}\hyper@anchorend
11752     }%
11753   \fi
11754 }

11755 </outlines | hypertex>

```

```

11756 <*outlines>
11757 \expandafter\def\csname Parent-4\endcsname{}
11758 \expandafter\def\csname Parent-3\endcsname{}
11759 \expandafter\def\csname Parent-2\endcsname{}
11760 \expandafter\def\csname Parent-1\endcsname{}
11761 \expandafter\def\csname Parent0\endcsname{}
11762 \expandafter\def\csname Parent1\endcsname{}
11763 \expandafter\def\csname Parent2\endcsname{}
11764 \expandafter\def\csname Parent3\endcsname{}
11765 \expandafter\def\csname Parent4\endcsname{}
11766 </outlines>

```

49 Compatibility with koma-script classes

```
11767 <*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.

```

11768 \def\Hy@tempa{%
11769   \def\@addchap[##1]##2{%
11770     \typeout{##2}%
11771     \if@twoside
11772       \mkboth{##1}{}%
11773     \else
11774       \mkboth{}{##1}%
11775     \fi
11776     \addtocontents{lof}{\protect\addvspace{10\p@}}%
11777     \addtocontents{lot}{\protect\addvspace{10\p@}}%
11778     \Hy@GlobalStepCount\Hy@linkcounter
11779     \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
11780     \Hy@raisedlink{%
11781       \hyper@anchorstart{\@currentHref}\hyper@anchorend
11782     }%
11783     \if@twocolumn
11784       \topnewpage[\@makeschapterhead{##2}]%
11785     \else
11786       \@makeschapterhead{##2}%
11787       \@afterheading
11788     \fi
11789     \addcontentsline{toc}{chapter}{##1}%
11790   }%
11791 }
11792 \@ifclassloaded{scrbook}{%
11793   \@ifclasslater{scrbook}{2001/01/01}{%
11794     \let\Hy@tempa\@empty
11795   }{}%
11796 }{%
11797   \@ifclassloaded{scrreprt}{%
11798     \@ifclasslater{scrreprt}{2001/01/01}{%
11799       \let\Hy@tempa\@empty
11800     }{}%
11801   }{}%
11802   \let\Hy@tempa\@empty
11803 }%
11804 }%

```

```

11805 \Hy@tempa
11806 </outlines | hypertex>

```

50 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek oberdiek@ruf.uni-freiburg.de

50.1 PD1 encoding

```

11807 <*pd1enc>
11808 \DeclareFontEncoding{PD1}{-}{-}

```

Special white space escape characters not for use in bookmarks but for other PDF strings.

```

11809 \DeclareTextCommand{\textLF}{PD1}{\012} % line feed
11810 \DeclareTextCommand{\textCR}{PD1}{\015} % carriage return
11811 \DeclareTextCommand{\textHT}{PD1}{\011} % horizontal tab
11812 \DeclareTextCommand{\textBS}{PD1}{\010} % backspace
11813 \DeclareTextCommand{\textFF}{PD1}{\014} % formfeed

```

Accents

```

11814 \DeclareTextAccent{\`}{PD1}{\textgrave}
11815 \DeclareTextAccent{\'}{PD1}{\textacute}
11816 \DeclareTextAccent{\~}{PD1}{\textcircumflex}
11817 \DeclareTextAccent{\~}{PD1}{\texttilde}
11818 \DeclareTextAccent{\"}{PD1}{\textdieresis}
11819 \DeclareTextAccent{\r}{PD1}{\textring}
11820 \DeclareTextAccent{\v}{PD1}{\textcaron}
11821 \DeclareTextAccent{\.}{PD1}{\textdotaccent}
11822 \DeclareTextAccent{\c}{PD1}{\textcedilla}
11823 \DeclareTextCompositeCommand{\`}{PD1}{\@empty}{\textgrave}
11824 \DeclareTextCompositeCommand{\'}{PD1}{\@empty}{\textacute}
11825 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\textcircumflex}
11826 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\texttilde}
11827 \DeclareTextCompositeCommand{\"}{PD1}{\@empty}{\textdieresis}
11828 \DeclareTextCompositeCommand{\r}{PD1}{\@empty}{\textring}
11829 \DeclareTextCompositeCommand{\v}{PD1}{\@empty}{\textcaron}
11830 \DeclareTextCompositeCommand{\.}{PD1}{\@empty}{\textdotaccent}
11831 \DeclareTextCompositeCommand{\c}{PD1}{\@empty}{\textcedilla}
11832 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}

```

Accent glyph names

```

11833 \DeclareTextCommand{\textbreve}{PD1}{\030} % breve
11834 \DeclareTextCommand{\textcaron}{PD1}{\031} % caron
11835 \DeclareTextCommand{\textcircumflex}{PD1}{\032} % circumflex
11836 \DeclareTextCommand{\textdotaccent}{PD1}{\033} % dotaccent
11837 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034} % hungarumlaut
11838 \DeclareTextCommand{\textogonek}{PD1}{\035} % ogonek
11839 \DeclareTextCommand{\textring}{PD1}{\036} % ring
11840 \DeclareTextCommand{\texttilde}{PD1}{\037} % tilde

```

\040: space

\041: exclam

```

11841 \DeclareTextCommand{\textquotedbl}{PD1}{\string"} % quotedbl \042
11842 \DeclareTextCommand{\textnumbersign}{PD1}{\043} % numbersign
11843 \DeclareTextCommand{\textdollar}{PD1}{\044} % dollar
11844 \DeclareTextCommand{\textpercent}{PD1}{\045} % percent
11845 \DeclareTextCommand{\textampersand}{PD1}{\046} % ampersand

```

\047: quotesingle

```

11846 \DeclareTextCommand{\textparenleft}{PD1}{\string\{ } % parenleft \050

```



```

11847 \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
11848 \DeclareTextCommand{\textless}{PD1}{<} % less \074
\075: equal
11849 \DeclareTextCommand{\textgreater}{PD1}{>} % greater \076
\077: question
\100: at
\101... \132: A...Z
\133: bracketleft
11850 \DeclareTextCommand{\textbackslash}{PD1}{\134} % backslash
\135: bracketright
11851 \DeclareTextCommand{\textasciicircum}{PD1}{\136} % asciicircum
11852 \DeclareTextCommand{\textunderscore}{PD1}{\137} % underscore
11853 \DeclareTextCommand{\textgrave}{PD1}{\140} % grave
\141... \172: a...z
11854 \DeclareTextCompositeCommand{\.}{PD1}{i}{i} % i
11855 \DeclareTextCommand{\textbraceleft}{PD1}{\173} % braceleft
11856 \DeclareTextCommand{\textbar}{PD1}{|} % bar
11857 \DeclareTextCommand{\textbraceright}{PD1}{\175} % braceright
11858 \DeclareTextCommand{\textasciitilde}{PD1}{\176} % asciitilde
No glyph \177 in PDFDocEncoding.
11859 \DeclareTextCommand{\textbullet}{PD1}{\200} % bullet
11860 \DeclareTextCommand{\textdagger}{PD1}{\201} % dagger
11861 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202} % daggerdbl
11862 \DeclareTextCommand{\textellipsis}{PD1}{\203} % ellipsis
11863 \DeclareTextCommand{\textemdash}{PD1}{\204} % emdash
11864 \DeclareTextCommand{\textendash}{PD1}{\205} % endash
11865 \DeclareTextCommand{\textflorin}{PD1}{\206} % florin
11866 \DeclareTextCommand{\textfractionmark}{PD1}{\207} % fraction, \207
11867 \DeclareTextCommand{\guilsinglleft}{PD1}{\210} % guilsinglleft
11868 \DeclareTextCommand{\guilsinglright}{PD1}{\211} % guilsinglright
11869 \DeclareTextCommand{\textminus}{PD1}{-} % minus, \212
11870 \DeclareTextCommand{\textperthousand}{PD1}{\213} % perthousand
11871 \DeclareTextCommand{\quotedblbase}{PD1}{\214} % quotedblbase
11872 \DeclareTextCommand{\textquotedblleft}{PD1}{\215} % quotedblleft
11873 \DeclareTextCommand{\textquotedblright}{PD1}{\216} % quotedblright
11874 \DeclareTextCommand{\textquoteleft}{PD1}{\217} % quoteleft
11875 \DeclareTextCommand{\textquoteright}{PD1}{\220} % quoteright
11876 \DeclareTextCommand{\quotesinglbase}{PD1}{\221} % quotesinglbase
11877 \DeclareTextCommand{\texttrademark}{PD1}{\222} % trademark
11878 \DeclareTextCommand{\textfi}{PD1}{\223} % fi ?? \223
11879 \DeclareTextCommand{\textfl}{PD1}{\224} % fl ?? \224
11880 \DeclareTextCommand{\L}{PD1}{\225} % Lslash, \225
11881 \DeclareTextCommand{\OE}{PD1}{\226} % OE
11882 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227} % Scaron
11883 \DeclareTextCompositeCommand{\Y}{PD1}{Y}{\230} % Ydieresis

```

```

11884 \DeclareTextCommand{\IJ}{PD1}{\230}
11885 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231} % Zcaron, \231
11886 \DeclareTextCommand{\i}{PD1}{\232} % dotlessi, \232
11887 \DeclareTextCommand{\l}{PD1}{\233} % lslash, \233
11888 \DeclareTextCommand{\oe}{PD1}{\234} % oe
11889 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235} % scaron
11890 \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.

```

11891 \DeclareTextCommand{\texteuro}{PD1}{\240} % Euro
11892 \DeclareTextCommand{\textexclamdown}{PD1}{\241} % exclamdown
11893 \DeclareTextCommand{\textcent}{PD1}{\242} % cent
11894 \DeclareTextCommand{\textsterling}{PD1}{\243} % sterling
11895 \DeclareTextCommand{\textcurrency}{PD1}{\244} % currency
11896 \DeclareTextCommand{\textyen}{PD1}{\245} % yen
11897 \DeclareTextCommand{\textbrokenbar}{PD1}{\246} % brokenbar
11898 \DeclareTextCommand{\textsection}{PD1}{\247} % section
11899 \DeclareTextCommand{\textdieresis}{PD1}{\250} % dieresis
11900 \DeclareTextCommand{\textcopyright}{PD1}{\251} % copyright
11901 \DeclareTextCommand{\textordfeminine}{PD1}{\252} % ordfeminine
11902 \DeclareTextCommand{\guillemotleft}{PD1}{\253} % guillemotleft
11903 \DeclareTextCommand{\textlogicalnot}{PD1}{\254} % logicalnot

```

No glyph \255 in PDFDocEncoding.

```

11904 \DeclareTextCommand{\textregistered}{PD1}{\256} % registered
11905 \DeclareTextCommand{\textmacron}{PD1}{\257} % macron
11906 \DeclareTextCommand{\textdegree}{PD1}{\260} % degree
11907 \DeclareTextCommand{\textplusminus}{PD1}{\261} % plusminus
11908 \DeclareTextCommand{\texttwosuperior}{PD1}{\262} % twosuperior
11909 \DeclareTextCommand{\textthreesuperior}{PD1}{\263} % threesuperior
11910 \DeclareTextCommand{\textacute}{PD1}{\264} % acute
11911 \DeclareTextCommand{\textmu}{PD1}{\265} % mu
11912 \DeclareTextCommand{\textparagraph}{PD1}{\266} % paragraph
11913 \DeclareTextCommand{\textperiodcentered}{PD1}{\267} % periodcentered
11914 \DeclareTextCommand{\textcedilla}{PD1}{\270} % cedilla
11915 \DeclareTextCommand{\textonesuperior}{PD1}{\271} % onesuperior
11916 \DeclareTextCommand{\textordmasculine}{PD1}{\272} % ordmasculine
11917 \DeclareTextCommand{\guillemotright}{PD1}{\273} % guillemotright
11918 \DeclareTextCommand{\textonequarter}{PD1}{\274} % onequarter
11919 \DeclareTextCommand{\textonehalf}{PD1}{\275} % onehalf
11920 \DeclareTextCommand{\textthreequarters}{PD1}{\276} % threequarters
11921 \DeclareTextCommand{\textquestiondown}{PD1}{\277} % questiondown
11922 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300} % Agrave
11923 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301} % Aacute
11924 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302} % Acircumflex
11925 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303} % Atilde
11926 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304} % Adieresis
11927 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305} % Aring
11928 \DeclareTextCommand{\AE}{PD1}{\306} % AE
11929 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307} % Ccedilla
11930 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310} % Egrave
11931 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311} % Eacute
11932 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312} % Ecircumflex
11933 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313} % Edieresis
11934 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314} % Igrave
11935 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315} % Iacute
11936 \DeclareTextCompositeCommand{\^}{PD1}{I}{\316} % Icircumflex
11937 \DeclareTextCompositeCommand{\~}{PD1}{I}{\317} % Idieresis

```

```

11938 \DeclareTextCommand{\DH}{PD1}{\320} % Eth
11939 \DeclareTextCommand{\DJ}{PD1}{\320} % Eth
11940 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321} % Ntilde
11941 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322} % Ograve
11942 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323} % Oacute
11943 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324} % Ocircumflex
11944 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325} % Otilde
11945 \DeclareTextCompositeCommand{\"}{PD1}{O}{\326} % Odieresis
11946 \DeclareTextCommand{\textmultiply}{PD1}{\327} % multiply
11947 \DeclareTextCommand{\O}{PD1}{\330} % Oslash
11948 \DeclareTextCompositeCommand{\`}{PD1}{U}{\331} % Ugrave
11949 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332} % Uacute
11950 \DeclareTextCompositeCommand{\^}{PD1}{U}{\333} % Ucircumflex
11951 \DeclareTextCompositeCommand{\"}{PD1}{U}{\334} % Udieresis
11952 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335} % Yacute
11953 \DeclareTextCommand{\TH}{PD1}{\336} % Thorn
11954 \DeclareTextCommand{\ss}{PD1}{\337} % germandbls
11955 \DeclareTextCompositeCommand{\`}{PD1}{a}{\340} % agrave
11956 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341} % aacute
11957 \DeclareTextCompositeCommand{\^}{PD1}{a}{\342} % acircumflex
11958 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343} % atilde
11959 \DeclareTextCompositeCommand{\"}{PD1}{a}{\344} % adieresis
11960 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345} % aring
11961 \DeclareTextCommand{\ae}{PD1}{\346} % ae
11962 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347} % ccedilla
11963 \DeclareTextCompositeCommand{\`}{PD1}{e}{\350} % egrave
11964 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351} % eacute
11965 \DeclareTextCompositeCommand{\^}{PD1}{e}{\352} % ecircumflex
11966 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353} % edieresis
11967 \DeclareTextCompositeCommand{\`}{PD1}{i}{\354} % igrave
11968 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354} % igrave
11969 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355} % iacute
11970 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355} % iacute
11971 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356} % icircumflex
11972 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356} % icircumflex
11973 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357} % idieresis
11974 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357} % idieresis
11975 \DeclareTextCommand{\dh}{PD1}{\360} % eth
11976 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361} % ntilde
11977 \DeclareTextCompositeCommand{\`}{PD1}{o}{\362} % ograve
11978 \DeclareTextCompositeCommand{\'}{PD1}{o}{\363} % oacute
11979 \DeclareTextCompositeCommand{\^}{PD1}{o}{\364} % ocircumflex
11980 \DeclareTextCompositeCommand{\~}{PD1}{o}{\365} % otilde
11981 \DeclareTextCompositeCommand{\"}{PD1}{o}{\366} % odieresis
11982 \DeclareTextCommand{\textdivide}{PD1}{\367} % divide
11983 \DeclareTextCommand{\o}{PD1}{\370} % oslash
11984 \DeclareTextCompositeCommand{\`}{PD1}{u}{\371} % ugrave
11985 \DeclareTextCompositeCommand{\'}{PD1}{u}{\372} % uacute
11986 \DeclareTextCompositeCommand{\^}{PD1}{u}{\373} % ucircumflex
11987 \DeclareTextCompositeCommand{\"}{PD1}{u}{\374} % udieresis
11988 \DeclareTextCompositeCommand{\'}{PD1}{y}{\375} % yacute
11989 \DeclareTextCommand{\th}{PD1}{\376} % thorn
11990 \DeclareTextCompositeCommand{\"}{PD1}{y}{\377} % ydieresis
11991 \DeclareTextCommand{\ij}{PD1}{\377}

Glyphs that consist of several characters.
11992 \DeclareTextCommand{\SS}{PD1}{SS}
11993 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}

```

Aliases (german.sty)

```
11994 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}
11995 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}
11996 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}
11997 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}
11998 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}
11999 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}
12000 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}
12001 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}
```

Aliases (math names)

```
12002 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}
12003 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}
12004 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}
12005 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}
12006 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}
12007 \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;

```
12008 \DeclareTextCompositeCommand{\k}{PD1}{a}{a} % aogonek
12009 \DeclareTextCompositeCommand{\'}{PD1}{c}{c} % cacute
12010 \DeclareTextCompositeCommand{\k}{PD1}{e}{e} % eogonek
12011 \DeclareTextCompositeCommand{\'}{PD1}{n}{n} % nacute
12012 \DeclareTextCompositeCommand{\'}{PD1}{s}{s} % sacute
12013 \DeclareTextCompositeCommand{\'}{PD1}{z}{z} % zacute
12014 \DeclareTextCompositeCommand{\.}{PD1}{z}{z} % zdot
12015 \DeclareTextCompositeCommand{\k}{PD1}{A}{A} % Aogonek
12016 \DeclareTextCompositeCommand{\'}{PD1}{C}{C} % Cacute
12017 \DeclareTextCompositeCommand{\k}{PD1}{E}{E} % Eogonek
12018 \DeclareTextCompositeCommand{\'}{PD1}{N}{N} % Nacute
12019 \DeclareTextCompositeCommand{\'}{PD1}{S}{S} % Sacute
12020 \DeclareTextCompositeCommand{\'}{PD1}{Z}{Z} % Zacute
12021 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z} % Zdot
```

12022 `/pdlenc)`

50.2 PU encoding

```
12023 <*puenc)
12024 \DeclareFontEncoding{PU}{-}{-}
```

50.2.1 Basic Latin

Special white space escape characters not for use in bookmarks but for other PDF strings.

```
12025 \DeclareTextCommand{\textLF}{PU}{\80\012} % line feed
12026 \DeclareTextCommand{\textCR}{PU}{\80\015} % carriage return
12027 \DeclareTextCommand{\textHT}{PU}{\80\011} % horizontal tab
12028 \DeclareTextCommand{\textBS}{PU}{\80\010} % backspace
12029 \DeclareTextCommand{\textFF}{PU}{\80\014} % formfeed
```

Accents

```
12030 \DeclareTextAccent{\'}{PU}{\textgrave}
12031 \DeclareTextAccent{\'}{PU}{\textacute}
12032 \DeclareTextAccent{\^}{PU}{\textcircumflex}
12033 \DeclareTextAccent{\~}{PU}{\texttilde}
12034 \DeclareTextAccent{\"}{PU}{\textdieresis}
12035 \DeclareTextAccent{\r}{PU}{\textring}
12036 \DeclareTextAccent{\v}{PU}{\textcaron}
12037 \DeclareTextAccent{\.}{PU}{\textdotaccent}
12038 \DeclareTextAccent{\c}{PU}{\textcedilla}
```

```

12039 \DeclareTextAccent{\U}{PU}{\textbreve}
12040 \DeclareTextAccent{\C}{PU}{\textdoublegrave}
12041 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textgrave}
12042 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}
12043 \DeclareTextCompositeCommand{\^}{PU}{\@empty}{\textcircumflex}
12044 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\texttilde}
12045 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textdieresis}
12046 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}
12047 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textcaron}
12048 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}
12049 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}
12050 \DeclareTextCompositeCommand{\U}{PU}{\@empty}{\textbreve}
12051 \DeclareTextCompositeCommand{\C}{PU}{\@empty}{\textdoublegrave}
12052 \DeclareTextCommand{\=}{PU}[1]{\TextSymbolUnavailable{\={#1}}#1}
12053 \DeclareTextCommand{\H}{PU}[1]{\TextSymbolUnavailable{\H{#1}}#1}
12054 \DeclareTextCommand{\k}{PU}[1]{\TextSymbolUnavailable{\k{#1}}#1}
12055 \DeclareTextCommand{\u}{PU}[1]{\TextSymbolUnavailable{\u{#1}}#1}

Accent glyph names

12056 \DeclareTextCommand{\textbreve}{PU}{\80\030} % breve
12057 \DeclareTextCommand{\textcaron}{PU}{\80\031} % caron
12058 \DeclareTextCommand{\textcircumflex}{PU}{\80\032} % circumflex
12059 \DeclareTextCommand{\textdotaccent}{PU}{\80\033} % dotaccent
12060 \DeclareTextCommand{\texthungarumlaut}{PU}{\80\034} % hungarumlaut
12061 \DeclareTextCommand{\textogonek}{PU}{\80\035} % ogonek
12062 \DeclareTextCommand{\textring}{PU}{\80\036} % ring
12063 \DeclareTextCommand{\texttilde}{PU}{\80\037} % tilde
12064 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017} % double grave

\040: space
\041: exclam

12065 \DeclareTextCommand{\textquotedbl}{PU}{\string"} % quotedbl \80\042
12066 \DeclareTextCommand{\textnumbersign}{PU}{\80\043} % numbersign
12067 \DeclareTextCommand{\textdollar}{PU}{\80\044} % dollar
12068 \DeclareTextCommand{\textpercent}{PU}{\80\045} % percent
12069 \DeclareTextCommand{\textampersand}{PU}{\80\046} % ampersand

\047: quotesingle

12070 \DeclareTextCommand{\textparenleft}{PU}{\80\050} % parenleft
12071 \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

12072 \DeclareTextCommand{\textless}{PU}{<} % less \80\074
\075: equal

12073 \DeclareTextCommand{\textgreater}{PU}{>} % greater \80\076

\077: question
\100: at
\101... \132: A...Z
\133: bracketleft

```

```

12074 \DeclareTextCommand{\textbackslash}{PU}{\80\134} % backslash
\135: bracketright
12075 \DeclareTextCommand{\textasciicircum}{PU}{\80\136} % asciicircum
12076 \DeclareTextCommand{\textunderscore}{PU}{\80\137} % underscore
12077 \DeclareTextCommand{\textgrave}{PU}{\80\140} % grave
\141... \172: a...z
12078 \DeclareTextCompositeCommand{\.}{PU}{i}{i} % i
12079 \DeclareTextCommand{\j}{PU}{j} % jdotless
12080 \DeclareTextCommand{\textbraceleft}{PU}{\80\173} % braceleft
12081 \DeclareTextCommand{\textbar}{PU}{|} % bar
12082 \DeclareTextCommand{\textbraceright}{PU}{\80\175} % braceright
12083 \DeclareTextCommand{\textasciitilde}{PU}{\80\176} % asciitilde
No glyph \177 in PDFDocEncoding.

```

50.2.2 Latin-1 Supplement

```

12084 \DeclareTextCommand{\textminus}{PU}{-} % minus, \80\212
12085 \DeclareTextCommand{\textfi}{PU}{fi} % fi ?? \80\223
12086 \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, testbmse, testbmzc, and testbmyi for details. Problematic are all positions, but especially \OE, \oe, and \i.

```

12087 %\DeclareTextCommand{\OE}{PU}{OE} % OE
12088 %\DeclareTextCommand{\oe}{PU}{oe} % oe

```

The euro \240 is inserted in version 1.3 of the pdf specification.

```

12089 \DeclareTextCommand{\textexclamdown}{PU}{\80\241} % exclamdown
12090 \DeclareTextCommand{\textcent}{PU}{\80\242} % cent
12091 \DeclareTextCommand{\textsterling}{PU}{\80\243} % sterling
12092 \DeclareTextCommand{\textcurrency}{PU}{\80\244} % currency
12093 \DeclareTextCommand{\textyen}{PU}{\80\245} % yen
12094 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246} % brokenbar
12095 \DeclareTextCommand{\textsection}{PU}{\80\247} % section
12096 \DeclareTextCommand{\textdieresis}{PU}{\80\250} % dieresis
12097 \DeclareTextCommand{\textcopyright}{PU}{\80\251} % copyright
12098 \DeclareTextCommand{\textordfeminine}{PU}{\80\252} % ordfeminine
12099 \DeclareTextCommand{\guillemotleft}{PU}{\80\253} % guillemotleft
12100 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254} % logicalnot

```

No glyph \255 in PDFDocEncoding.

```

12101 \DeclareTextCommand{\textregistered}{PU}{\80\256} % registered
12102 \DeclareTextCommand{\textmacron}{PU}{\80\257} % macron
12103 \DeclareTextCommand{\textdegree}{PU}{\80\260} % degree
12104 \DeclareTextCommand{\textplusminus}{PU}{\80\261} % plusminus
12105 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262} % twosuperior
12106 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263} % threesuperior
12107 \DeclareTextCommand{\textacute}{PU}{\80\264} % acute
12108 \DeclareTextCommand{\textmu}{PU}{\80\265} % mu
12109 \DeclareTextCommand{\textparagraph}{PU}{\80\266} % paragraph
12110 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267} % periodcentered
12111 \DeclareTextCommand{\textcedilla}{PU}{\80\270} % cedilla
12112 \DeclareTextCommand{\textonesuperior}{PU}{\80\271} % onesuperior
12113 \DeclareTextCommand{\textordmasculine}{PU}{\80\272} % ordmasculine
12114 \DeclareTextCommand{\guillemotright}{PU}{\80\273} % guillemotright
12115 \DeclareTextCommand{\textonequarter}{PU}{\80\274} % onequarter
12116 \DeclareTextCommand{\textonehalf}{PU}{\80\275} % onehalf

```

12117 \DeclareTextCommand{\textthreequarters}{PU}{\80\276} % threequarters
12118 \DeclareTextCommand{\textquestiondown}{PU}{\80\277} % questiondown
12119 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\300} % Agrave
12120 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301} % Aacute
12121 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302} % Acircumflex
12122 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303} % Atilde
12123 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304} % Adieresis
12124 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305} % Aring
12125 \DeclareTextCommand{\AE}{PU}{\80\306} % AE
12126 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307} % Ccedilla
12127 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\310} % Egrave
12128 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311} % Eacute
12129 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312} % Ecircumflex
12130 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313} % Edieresis
12131 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\314} % Igrave
12132 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315} % Iacute
12133 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316} % Icircumflex
12134 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317} % Idieresis
12135 \DeclareTextCommand{\DH}{PU}{\80\320} % Eth
12136 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321} % Ntilde
12137 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\322} % Ograve
12138 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323} % Oacute
12139 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324} % Ocircumflex
12140 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325} % Otilde
12141 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326} % Odieresis
12142 \DeclareTextCommand{\textmultiply}{PU}{\80\327} % multiply
12143 \DeclareTextCommand{\O}{PU}{\80\330} % Oslash
12144 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331} % Ugrave
12145 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332} % Uacute
12146 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333} % Ucircumflex
12147 \DeclareTextCompositeCommand{\"}{PU}{U}{\80\334} % Udieresis
12148 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335} % Yacute
12149 \DeclareTextCommand{\TH}{PU}{\80\336} % Thorn
12150 \DeclareTextCommand{\ss}{PU}{\80\337} % germandbls
12151 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340} % agrave
12152 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341} % aacute
12153 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342} % acircumflex
12154 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343} % atilde
12155 \DeclareTextCompositeCommand{\"}{PU}{a}{\80\344} % adieresis
12156 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345} % aring
12157 \DeclareTextCommand{\ae}{PU}{\80\346} % ae
12158 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347} % ccedilla
12159 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350} % egrave
12160 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351} % eacute
12161 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352} % ecircumflex
12162 \DeclareTextCompositeCommand{\"}{PU}{e}{\80\353} % edieresis
12163 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354} % igrave
12164 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354} % igrave
12165 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355} % iacute
12166 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355} % iacute
12167 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356} % icircumflex
12168 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356} % icircumflex
12169 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357} % idieresis
12170 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357} % idieresis
12171 \DeclareTextCommand{\dh}{PU}{\80\360} % eth
12172 \DeclareTextCompositeCommand{\~}{PU}{n}{\80\361} % ntilde
12173 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362} % ograve

```

12174 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363} % oacute
12175 \DeclareTextCompositeCommand{\^}{PU}{o}{\80\364} % ocircumflex
12176 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365} % otilde
12177 \DeclareTextCompositeCommand{\"}{PU}{o}{\80\366} % odieresis
12178 \DeclareTextCommand{\textdivide}{PU}{\80\367} % divide
12179 \DeclareTextCommand{\o}{PU}{\80\370} % oslash
12180 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371} % ugrave
12181 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372} % uacute
12182 \DeclareTextCompositeCommand{\^}{PU}{u}{\80\373} % ucircumflex
12183 \DeclareTextCompositeCommand{\"}{PU}{u}{\80\374} % udieresis
12184 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375} % yacute
12185 \DeclareTextCommand{\th}{PU}{\80\376} % thorn
12186 \DeclareTextCompositeCommand{\"}{PU}{y}{\80\377} % ydieresis
12187 \DeclareTextCommand{\ij}{PU}{\80\377}

```

Glyphs that consist of several characters.

```
12188 \DeclareTextCommand{\SS}{PU}{SS}
```

Aliases (german.sty)

```

12189 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}
12190 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}
12191 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}
12192 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}
12193 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}
12194 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}
12195 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}
12196 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}

```

Aliases (math names)

```

12197 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}
12198 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}
12199 \DeclareTextCommand{\textdiv}{PU}{\textdivide}
12200 \DeclareTextCommand{\textpm}{PU}{\textplusminus}
12201 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}

```

50.2.3 Latin Extended-A

```

12202 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000}% Amacron
12203 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% amacron
12204 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% Abreve
12205 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% abreve
12206 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004} % Aogonek
12207 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005} % aogonek
12208 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006} % Cacute
12209 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007} % cacute
12210 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010} % Ccircumflex
12211 \DeclareTextCompositeCommand{\^}{PU}{c}{\81\011} % ccircumflex
12212 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012} % Cdot
12213 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013} % cdot
12214 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014} % Ccaron
12215 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015} % ccaron
12216 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016} % Dcaron
12217 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017} % dcaron
12218 \DeclareTextCommand{\DJ}{PU}{\81\020} % Dslash
12219 \DeclareTextCommand{\dj}{PU}{\81\021} % dslash
12220 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022} % Emacron
12221 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023} % emacron
12222 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024} % Ebreve
12223 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025} % ebreve
12224 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026} % Edot

```



```

12225 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027} % edot
12226 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030} % Eogonek
12227 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031} % eogonek
12228 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032} % Ecaron
12229 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033} % ecaron
12230 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034} % Gcircumflex
12231 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035} % gcircumflex
12232 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036} % Gbreve
12233 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037} % gbreve
12234 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040} % Gdot
12235 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041} % gdot
12236 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042} % Gcedilla
12237 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043} % gcedilla
12238 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044} % Hcircumflex
12239 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045} % hcircumflex
12240 \DeclareTextCommand{\textHslash}{PU}{\81\046} % Hslash
12241 \DeclareTextCommand{\texthslash}{PU}{\81\047} % hslash
12242 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050} % Itilde
12243 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051} % itilde
12244 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051} % itilde
12245 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052} % Imacron
12246 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053} % imacron
12247 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053} % imacron
12248 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054} % Ibreve
12249 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055} % ibreve
12250 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055} % ibreve
12251 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056} % Iogonek
12252 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057} % iogonek
12253 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057} % iogonek
12254 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060} % Idot
12255 \DeclareTextCommand{\i}{PU}{\81\061} % idotless
12256 % IJlig
12257 % ijlig
12258 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064} % Jcircumflex
12259 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065} % jcircumflex
12260 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065} % jcircumflex
12261 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066} % Kcedilla
12262 \DeclareTextCompositeCommand{\c}{PU}{k}{\81\067} % kcedilla
12263 % kgreen
12264 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071} % Lacute
12265 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072} % lacute
12266 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073} % Lcedilla
12267 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074} % lcedilla
12268 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075} % Lcaron
12269 \DeclareTextCompositeCommand{\v}{PU}{l}{\81\076} % lcaron
12270 % L middle dot
12271 % l middle dot
12272 \DeclareTextCommand{\L}{PU}{\81\101} % Lslash
12273 \DeclareTextCommand{\l}{PU}{\81\102} % lslash
12274 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103} % Nacute
12275 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104} % nacute
12276 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105} % Ncedilla
12277 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106} % ncedilla
12278 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107} % Ncaron
12279 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110} % ncaron
12280 % n apostrophe
12281 \DeclareTextCommand{\NG}{PU}{\81\112} % NG

```

```

12282 \DeclareTextCommand{\ng}{PU}{\81\113} % ng
12283 \DeclareTextCompositeCommand{=} {PU}{0}{\81\114} % Omacron
12284 \DeclareTextCompositeCommand{\=} {PU}{o}{\81\115} % omacron
12285 \DeclareTextCompositeCommand{\u} {PU}{0}{\81\116} % Obreve
12286 \DeclareTextCompositeCommand{\u} {PU}{o}{\81\117} % obreve
12287 \DeclareTextCompositeCommand{\H} {PU}{0}{\81\120} % Odoubleacute
12288 \DeclareTextCompositeCommand{\H} {PU}{o}{\81\121} % odoubleacute
12289 \DeclareTextCommand{\OE}{PU}{\81\122} % OE
12290 \DeclareTextCommand{\oe}{PU}{\81\123} % oe
12291 \DeclareTextCompositeCommand{\'} {PU}{R}{\81\124} % Racute
12292 \DeclareTextCompositeCommand{\'} {PU}{r}{\81\125} % racute
12293 \DeclareTextCompositeCommand{\c} {PU}{R}{\81\126} % Rcedilla
12294 \DeclareTextCompositeCommand{\c} {PU}{r}{\81\127} % rcedilla
12295 \DeclareTextCompositeCommand{\v} {PU}{R}{\81\130} % Rcaron
12296 \DeclareTextCompositeCommand{\v} {PU}{r}{\81\131} % rcaron
12297 \DeclareTextCompositeCommand{\'} {PU}{S}{\81\132} % Sacute
12298 \DeclareTextCompositeCommand{\'} {PU}{s}{\81\133} % sacute
12299 \DeclareTextCompositeCommand{\^} {PU}{S}{\81\134} % Scircumflex
12300 \DeclareTextCompositeCommand{\^} {PU}{s}{\81\135} % scircumflex
12301 \DeclareTextCompositeCommand{\c} {PU}{S}{\81\136} % Scedilla
12302 \DeclareTextCompositeCommand{\c} {PU}{s}{\81\137} % scedilla
12303 \DeclareTextCompositeCommand{\v} {PU}{S}{\81\140} % Scaron
12304 \DeclareTextCompositeCommand{\v} {PU}{s}{\81\141} % scaron
12305 \DeclareTextCompositeCommand{\c} {PU}{T}{\81\142} % Tcedilla
12306 \DeclareTextCompositeCommand{\c} {PU}{t}{\81\143} % tcedilla
12307 \DeclareTextCompositeCommand{\v} {PU}{T}{\81\144} % Tcaron
12308 \DeclareTextCompositeCommand{\v} {PU}{t}{\81\145} % tcaron
12309 \DeclareTextCommand{\textTslash}{PU}{\81\146} % Tslash
12310 \DeclareTextCommand{\texttslash}{PU}{\81\147} % tslash
12311 \DeclareTextCompositeCommand{\~} {PU}{U}{\81\150} % Utilde
12312 \DeclareTextCompositeCommand{\~} {PU}{u}{\81\151} % utilde
12313 \DeclareTextCompositeCommand{=} {PU}{U}{\81\152} % Umacron
12314 \DeclareTextCompositeCommand{=} {PU}{u}{\81\153} % umacron
12315 \DeclareTextCompositeCommand{\u} {PU}{U}{\81\154} % Ubreve
12316 \DeclareTextCompositeCommand{\u} {PU}{u}{\81\155} % ubreve
12317 \DeclareTextCompositeCommand{\r} {PU}{U}{\81\156} % Uring
12318 \DeclareTextCompositeCommand{\r} {PU}{u}{\81\157} % uring
12319 \DeclareTextCompositeCommand{\H} {PU}{U}{\81\160} % Udoubleacute
12320 \DeclareTextCompositeCommand{\H} {PU}{u}{\81\161} % udoubleacute
12321 \DeclareTextCompositeCommand{\k} {PU}{U}{\81\162} % Uogonek
12322 \DeclareTextCompositeCommand{\k} {PU}{u}{\81\163} % uogonek
12323 \DeclareTextCompositeCommand{\^} {PU}{W}{\81\164} % Wcircumflex
12324 \DeclareTextCompositeCommand{\^} {PU}{w}{\81\165} % wcircumflex
12325 \DeclareTextCompositeCommand{\^} {PU}{Y}{\81\166} % Ycircumflex
12326 \DeclareTextCompositeCommand{\^} {PU}{y}{\81\167} % ycircumflex
12327 \DeclareTextCompositeCommand{"} {PU}{Y}{\81\170} % Ydieresis
12328 \DeclareTextCommand{\IJ}{PU}{\81\170}
12329 \DeclareTextCompositeCommand{\'} {PU}{Z}{\81\171} % Zacute
12330 \DeclareTextCompositeCommand{\'} {PU}{z}{\81\172} % zacute
12331 \DeclareTextCompositeCommand{\.} {PU}{Z}{\81\173} % Zdot
12332 \DeclareTextCompositeCommand{\.} {PU}{z}{\81\174} % zdot
12333 \DeclareTextCompositeCommand{\v} {PU}{Z}{\81\175} % Zcaron
12334 \DeclareTextCompositeCommand{\v} {PU}{z}{\81\176} % zcaron

```

50.2.4 Latin Extended-B

```

12335 \DeclareTextCommand{\textflorin}{PU}{\81\222} % florin
12336 \DeclareTextCompositeCommand{\v} {PU}{A}{\81\315} % Acaron

```

```

12337 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316} % acaron
12338 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317} % Icaron
12339 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320} % icaron
12340 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320} % icaron
12341 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321} % Ocaron
12342 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322} % ocaron
12343 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323} % Ucaron
12344 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324} % ucaron
12345 \DeclareTextCommand{\textGslash}{PU}{\81\344} % Gslash
12346 \DeclareTextCommand{\textgslash}{PU}{\81\345} % gslash
12347 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346} % Gcaron
12348 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347} % gcaron
12349 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350} % Kcaron
12350 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351} % kcaron
12351 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352} % Oogonek
12352 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353} % oogonek

```

50.2.5 Greek

```

12353 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}
12354 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}
12355 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}
12356 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}
12357 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}
12358 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}
12359 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}
12360 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}
12361 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}
12362 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}
12363 \DeclareTextCompositeCommand{\'}{PU}{\textIotadieresis}{\83\220}
12364 \DeclareTextCommand{\textAlpha}{PU}{\83\221}
12365 \DeclareTextCommand{\textBeta}{PU}{\83\222}
12366 \DeclareTextCommand{\textGamma}{PU}{\83\223}
12367 \DeclareTextCommand{\textDelta}{PU}{\83\224}
12368 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}
12369 \DeclareTextCommand{\textZeta}{PU}{\83\226}
12370 \DeclareTextCommand{\textEta}{PU}{\83\227}
12371 \DeclareTextCommand{\textTheta}{PU}{\83\230}
12372 \DeclareTextCommand{\textIota}{PU}{\83\231}
12373 \DeclareTextCommand{\textKappa}{PU}{\83\232}
12374 \DeclareTextCommand{\textLambda}{PU}{\83\233}
12375 \DeclareTextCommand{\textMu}{PU}{\83\234}
12376 \DeclareTextCommand{\textNu}{PU}{\83\235}
12377 \DeclareTextCommand{\textXi}{PU}{\83\236}
12378 \DeclareTextCommand{\textOmicron}{PU}{\83\237}
12379 \DeclareTextCommand{\textPi}{PU}{\83\240}
12380 \DeclareTextCommand{\textRho}{PU}{\83\241}
12381 \DeclareTextCommand{\textSigma}{PU}{\83\243}
12382 \DeclareTextCommand{\textTau}{PU}{\83\244}
12383 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}
12384 \DeclareTextCommand{\textPhi}{PU}{\83\246}
12385 \DeclareTextCommand{\textChi}{PU}{\83\247}
12386 \DeclareTextCommand{\textPsi}{PU}{\83\250}
12387 \DeclareTextCommand{\textOmega}{PU}{\83\251}
12388 \DeclareTextCompositeCommand{"}{PU}{\textIota}{\83\252}
12389 \DeclareTextCompositeCommand{"}{PU}{\textUpsilon}{\83\253}
12390 \DeclareTextCompositeCommand{\'}{PU}{\textalpha}{\83\254}
12391 \DeclareTextCompositeCommand{\'}{PU}{\textepsilon}{\83\255}

```

```

12392 \DeclareTextCompositeCommand{\'}{PU}{\texteta}{\83\256}
12393 \DeclareTextCompositeCommand{\'}{PU}{\textiota}{\83\257}
12394 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}
12395 \DeclareTextCompositeCommand{\"}{PU}{\textupsilonacute}{\83\260}
12396 \DeclareTextCommand{\textalpha}{PU}{\83\261}
12397 \DeclareTextCommand{\textbeta}{PU}{\83\262}
12398 \DeclareTextCommand{\textgamma}{PU}{\83\263}
12399 \DeclareTextCommand{\textdelta}{PU}{\83\264}
12400 \DeclareTextCommand{\textepsilon}{PU}{\83\265}
12401 \DeclareTextCommand{\textzeta}{PU}{\83\266}
12402 \DeclareTextCommand{\texteta}{PU}{\83\267}
12403 \DeclareTextCommand{\texttheta}{PU}{\83\270}
12404 \DeclareTextCommand{\textiota}{PU}{\83\271}
12405 \DeclareTextCommand{\textkappa}{PU}{\83\272}
12406 \DeclareTextCommand{\textlambda}{PU}{\83\273}
12407 \DeclareTextCommand{\textmu}{PU}{\83\274}
12408 \DeclareTextCommand{\textnu}{PU}{\83\275}
12409 \DeclareTextCommand{\textxi}{PU}{\83\276}
12410 \DeclareTextCommand{\textomicron}{PU}{\83\277}
12411 \DeclareTextCommand{\textpi}{PU}{\83\300}
12412 \DeclareTextCommand{\textrho}{PU}{\83\301}
12413 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}
12414 \DeclareTextCommand{\textsigma}{PU}{\83\303}
12415 \DeclareTextCommand{\texttau}{PU}{\83\304}
12416 \DeclareTextCommand{\textupsilon}{PU}{\83\305}
12417 \DeclareTextCommand{\textphi}{PU}{\83\306}
12418 \DeclareTextCommand{\textchi}{PU}{\83\307}
12419 \DeclareTextCommand{\textpsi}{PU}{\83\310}
12420 \DeclareTextCommand{\textomega}{PU}{\83\311}
12421 \DeclareTextCompositeCommand{\"}{PU}{\textiota}{\83\312}
12422 \DeclareTextCompositeCommand{\"}{PU}{\textupsilon}{\83\313}
12423 \DeclareTextCompositeCommand{\'}{PU}{\textomicron}{\83\314}
12424 \DeclareTextCompositeCommand{\'}{PU}{\textupsilon}{\83\315}
12425 \DeclareTextCompositeCommand{\'}{PU}{\textomega}{\83\316}
12426 %\DeclareTextCommand{\textvartheta}{PU}{\83\321}
12427 %\DeclareTextCommand{\textvarphi}{PU}{\83\325}
12428 %\DeclareTextCommand{\textvarpi}{PU}{\83\326}
12429 \DeclareTextCommand{\textStigmagreek}{PU}{\83\332}
12430 \DeclareTextCommand{\textstigmagreek}{PU}{\83\333}
12431 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}
12432 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}
12433 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}
12434 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}
12435 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}
12436 \DeclareTextCommand{\textsampigreek}{PU}{\83\341}
12437 %\DeclareTextCommand{\textvarkappa}{PU}{\83\360}
12438 %\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.

```

12439 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% IO
12440 \DeclareTextCompositeCommand{\"}{PU}{\CYRE}{\84\001}%
12441 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% DJE
12442 \DeclareTextCompositeCommand{\'}{PU}{\CYRG}{\84\003}% GJE
12443 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% ukrainian IE
12444 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% DZE

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12445 \DeclareTextCommand{\CYRII}{PU}{\84\006}% byelorussian-ukrainian I
12446 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% YI
12447 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% JE
12448 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% LJE
12449 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% NJE
12450 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% TSHE
12451 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% KJE
12452 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% short U
12453 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% DZHE
12454 \DeclareTextCommand{\CYRA}{PU}{\84\020}% A
12455 \DeclareTextCommand{\CYRB}{PU}{\84\021}% BE
12456 \DeclareTextCommand{\CYRV}{PU}{\84\022}% VE
12457 \DeclareTextCommand{\CYRG}{PU}{\84\023}% GHE
12458 \DeclareTextCommand{\CYRD}{PU}{\84\024}% DE
12459 \DeclareTextCommand{\CYRE}{PU}{\84\025}% IE
12460 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% ZHE
12461 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% ZE
12462 \DeclareTextCommand{\CYRI}{PU}{\84\030}% I
12463 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% short I
12464 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}%
12465 \DeclareTextCommand{\CYRK}{PU}{\84\032}% KA
12466 \DeclareTextCommand{\CYRL}{PU}{\84\033}% EL
12467 \DeclareTextCommand{\CYRM}{PU}{\84\034}% EM
12468 \DeclareTextCommand{\CYRN}{PU}{\84\035}% EN
12469 \DeclareTextCommand{\CYRO}{PU}{\84\036}% O
12470 \DeclareTextCommand{\CYRP}{PU}{\84\037}% PE
12471 \DeclareTextCommand{\CYRR}{PU}{\84\040}% ER
12472 \DeclareTextCommand{\CYRS}{PU}{\84\041}% ES
12473 \DeclareTextCommand{\CYRT}{PU}{\84\042}% TE
12474 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U
12475 \DeclareTextCommand{\CYRF}{PU}{\84\044}% EF
12476 \DeclareTextCommand{\CYRH}{PU}{\84\045}% HA
12477 \DeclareTextCommand{\CYRC}{PU}{\84\046}% TSE
12478 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% CHE
12479 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% SHA
12480 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% SHCHA
12481 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% HARD SIGN
12482 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% YERU
12483 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% SOFT SIGN
12484 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% E
12485 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% YU
12486 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% YA
12487 \DeclareTextCommand{\cyra}{PU}{\84\060}% a
12488 \DeclareTextCommand{\cyrb}{PU}{\84\061}% be
12489 \DeclareTextCommand{\cyrv}{PU}{\84\062}% ve
12490 \DeclareTextCommand{\cyrg}{PU}{\84\063}% ghe
12491 \DeclareTextCommand{\cyrd}{PU}{\84\064}% de
12492 \DeclareTextCommand{\cyre}{PU}{\84\065}% ie
12493 \DeclareTextCommand{\cyrzh}{PU}{\84\066}% zhe
12494 \DeclareTextCommand{\cyrz}{PU}{\84\067}% ze
12495 \DeclareTextCommand{\cyri}{PU}{\84\070}% i
12496 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% short i
12497 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}%
12498 \DeclareTextCommand{\cyrk}{PU}{\84\072}% ka
12499 \DeclareTextCommand{\cyr1}{PU}{\84\073}% el
12500 \DeclareTextCommand{\cyrn}{PU}{\84\074}% em
12501 \DeclareTextCommand{\cyrn}{PU}{\84\075}% en

12502 \DeclareTextCommand{\cyro}{PU}{\84\076}% o
12503 \DeclareTextCommand{\cyrp}{PU}{\84\077}% pe
12504 \DeclareTextCommand{\cyrr}{PU}{\84\100}% er
12505 \DeclareTextCommand{\cyrs}{PU}{\84\101}% es
12506 \DeclareTextCommand{\cyrt}{PU}{\84\102}% te
12507 \DeclareTextCommand{\cyru}{PU}{\84\103}% u
12508 \DeclareTextCommand{\cyrf}{PU}{\84\104}% ef
12509 \DeclareTextCommand{\cyrh}{PU}{\84\105}% ha
12510 \DeclareTextCommand{\cyrch}{PU}{\84\106}% tse
12511 \DeclareTextCommand{\cyrsh}{PU}{\84\107}% che
12512 \DeclareTextCommand{\cyrshch}{PU}{\84\110}% sha
12513 \DeclareTextCommand{\cyrshchn}{PU}{\84\111}% shcha
12514 \DeclareTextCommand{\cyrhrdsn}{PU}{\84\112}% hard sign
12515 \DeclareTextCommand{\cyrery}{PU}{\84\113}% yeru
12516 \DeclareTextCommand{\cyrstsn}{PU}{\84\114}% soft sign
12517 \DeclareTextCommand{\cyrerev}{PU}{\84\115}% e
12518 \DeclareTextCommand{\cyrju}{PU}{\84\116}% ju
12519 \DeclareTextCommand{\cyrja}{PU}{\84\117}% ja
12520 \DeclareTextCommand{\cyrjo}{PU}{\84\121}% io
12521 \DeclareTextCompositeCommand{\'}{PU}{\cyrj}{\84\121}%
12522 \DeclareTextCommand{\cyrdje}{PU}{\84\122}% dje
12523 \DeclareTextCompositeCommand{\'}{PU}{\cyrj}{\84\123}% gje
12524 \DeclareTextCommand{\cyrje}{PU}{\84\124}% ukrainian ie
12525 \DeclareTextCommand{\cyrdze}{PU}{\84\125}% dze
12526 \DeclareTextCommand{\cyrji}{PU}{\84\126}% byelorussian-ukrainian i
12527 \DeclareTextCommand{\cyrji}{PU}{\84\127}% yi
12528 \DeclareTextCommand{\cyrje}{PU}{\84\130}% je
12529 \DeclareTextCommand{\cyrle}{PU}{\84\131}% le
12530 \DeclareTextCommand{\cyrne}{PU}{\84\132}% ne
12531 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% tshe
12532 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% kje
12533 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% short u
12534 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% dzhe
12535 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% OMEGA
12536 \DeclareTextCommand{\cyromega}{PU}{\84\141}% omega
12537 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% YAT
12538 \DeclareTextCommand{\cyrjat}{PU}{\84\143}% jat
12539 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% iotified E
12540 \DeclareTextCommand{\cyriote}{PU}{\84\145}% iotified e
12541 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% little YUS
12542 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% little yus
12543 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% iotified little YUS
12544 \DeclareTextCommand{\cyrlyus}{PU}{\84\151}% iotified little yus
12545 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% big YUS
12546 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% big yus
12547 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% iotified big YUS
12548 \DeclareTextCommand{\cyrbyus}{PU}{\84\155}% iotified big yus
12549 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% KSI
12550 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% ksi
12551 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% PSI
12552 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% psi
12553 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% FITA
12554 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% fita
12555 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% IZHITSA
12556 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% izhitsa
12557 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% IZHITSA double grave
12558 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% izhitsa double grave

12559 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% UK
12560 \DeclareTextCommand{\cyruk}{PU}{\84\171}% uk
12561 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% round OMEGA
12562 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% round omega
12563 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% OMEGA titlo
12564 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% omega titlo
12565 \DeclareTextCommand{\CYROT}{PU}{\84\176}% OT
12566 \DeclareTextCommand{\cyrot}{PU}{\84\177}% ot
12567 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% KOPPA
12568 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% koppa
12569 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% thousands sign
12570 %\DeclareTextCommand{\COMBINING TITLO}{PU}{\84\203}% COMBINING TITLO
12571 %\DeclareTextCommand{\COMBINING PALATALIZATION}{PU}{\84\204}% COMBINING PALATALIZATION
12572 %\DeclareTextCommand{\COMBINING DASIA PNEUMATA}{PU}{\84\205}% COMBINING DASIA PNEUMATA
12573 %\DeclareTextCommand{\COMBINING PSILI PNEUMATA}{PU}{\84\206}% COMBINING PSILI PNEUMATA
12574 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% GHE upturn
12575 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% ghe upturn
12576 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% GHE stroke
12577 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% ghe stroke
12578 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% GHE middle hook
12579 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% ghe middle hook
12580 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% ZHE descender
12581 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% zhe descender
12582 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% ZE descender
12583 \DeclareTextCommand{\cyrzdsc}{PU}{\84\231}% ze descender
12584 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% KA descender
12585 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% ka descender
12586 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% KA vertical stroke
12587 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% ka vertical stroke
12588 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% KA stroke
12589 \DeclareTextCommand{\cyrkhcrs}{PU}{\84\237}% ka stroke
12590 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% bashkir KA
12591 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% bashkir ka
12592 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% EN descender
12593 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% en descender
12594 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% ligature EN GHE
12595 \DeclareTextCommand{\cyrng}{PU}{\84\245}% ligature en ghe
12596 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% PE middle hook
12597 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% pe middle hook
12598 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% abkhasian HA
12599 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% abkhasian ha
12600 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% ES descender
12601 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% es descender
12602 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% TE descender
12603 \DeclareTextCommand{\cyrtldsc}{PU}{\84\255}% te descender
12604 \DeclareTextCommand{\CYRY}{PU}{\84\256}% straight U
12605 \DeclareTextCommand{\cyry}{PU}{\84\257}% straight u
12606 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% straight U stroke
12607 \DeclareTextCommand{\cyrhcrs}{PU}{\84\261}% straight u stroke
12608 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% HA descender
12609 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% ha descender
12610 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% ligature TE TSE
12611 \DeclareTextCommand{\cyrtdetse}{PU}{\84\265}% ligature te tse
12612 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% CHE descender
12613 \DeclareTextCommand{\cyrchrdsc}{PU}{\84\267}% che descender
12614 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% CHE vertical stroke
12615 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% che vertical stroke

12616 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% SHHA
12617 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% shha
12618 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% abkhasian CHE
12619 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% abkhasian che
12620 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% abkhasian CHE descender
12621 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% abkhasian che descender
12622 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% palochka
12623 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% ZHE breve
12624 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% zhe breve
12625 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% KA hook
12626 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% ka hook
12627 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% EN hook
12628 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% en hook
12629 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% khakassian CHE
12630 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% khakassian che
12631 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% A breve
12632 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% a breve
12633 \DeclareTextCompositeCommand{"}{PU}{\CYRA}{\84\322}% A diaeresis
12634 \DeclareTextCompositeCommand{"}{PU}{\cyra}{\84\323}% a diaeresis
12635 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% ligature A IE
12636 \DeclareTextCommand{\cyrae}{PU}{\84\325}% ligature a ie
12637 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% IE breve
12638 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% ie breve
12639 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% SCHWA
12640 \DeclareTextCommand{\cyrswa}{PU}{\84\331}% schwa
12641 \DeclareTextCompositeCommand{"}{PU}{\CYRSCHWA}{\84\332}% SCHWA diaeresis
12642 \DeclareTextCompositeCommand{"}{PU}{\cyrswa}{\84\333}% schwa diaeresis
12643 \DeclareTextCompositeCommand{"}{PU}{\CYRZH}{\84\334}% ZHE diaeresis
12644 \DeclareTextCompositeCommand{"}{PU}{\cyrzh}{\84\335}% zhe diaeresis
12645 \DeclareTextCompositeCommand{"}{PU}{\CYRZ}{\84\336}% ZE diaeresis
12646 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\337}% ze diaeresis
12647 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% abkhasian DZE
12648 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% abkhasian dze
12649 \DeclareTextCompositeCommand{=}{PU}{\CYRI}{\84\342}% I macron
12650 \DeclareTextCompositeCommand{=}{PU}{\cyri}{\84\343}% i macron
12651 \DeclareTextCompositeCommand{"}{PU}{\CYRI}{\84\344}% I diaeresis
12652 \DeclareTextCompositeCommand{"}{PU}{\cyri}{\84\345}% i diaeresis
12653 \DeclareTextCompositeCommand{"}{PU}{\CYRO}{\84\346}% O diaeresis
12654 \DeclareTextCompositeCommand{"}{PU}{\cyro}{\84\347}% o diaeresis
12655 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% barred O
12656 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% barred o
12657 \DeclareTextCompositeCommand{"}{PU}{\CYROTLD}{\84\352}% barred O diaeresis
12658 \DeclareTextCompositeCommand{"}{PU}{\cyrotld}{\84\353}% barred o diaeresis
12659 \DeclareTextCompositeCommand{=}{PU}{\CYRU}{\84\356}% U macron
12660 \DeclareTextCompositeCommand{=}{PU}{\cyru}{\84\357}% u macron
12661 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U diaeresis
12662 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\361}% u diaeresis
12663 \DeclareTextCompositeCommand{\H}{PU}{\CYRU}{\84\362}% U double acute
12664 \DeclareTextCompositeCommand{\H}{PU}{\cyru}{\84\363}% u double acute
12665 \DeclareTextCompositeCommand{"}{PU}{\CYRCH}{\84\364}% CHE diaeresis
12666 \DeclareTextCompositeCommand{"}{PU}{\cyrch}{\84\365}% che diaeresis
12667 \DeclareTextCompositeCommand{"}{PU}{\CYRERY}{\84\370}% YERU diaeresis
12668 \DeclareTextCompositeCommand{"}{PU}{\cyrery}{\84\371}% yeru diaeresis

50.2.7 Symbols

12669 \DeclareTextCommand{\textendash}{PU}{\9040\023} % endash


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12670 \DeclareTextCommand{\textemdash}{PU}{\9040\024} % emdash
12671 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030} % quoteleft
12672 \DeclareTextCommand{\textquoteright}{PU}{\9040\031} % quoteright
12673 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032} % quotesinglbase
12674 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034} % quotedblleft
12675 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035} % quotedblright
12676 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036} % quotedblbase
12677 \DeclareTextCommand{\textdagger}{PU}{\9040\040} % dagger
12678 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041} % daggerdbl
12679 \DeclareTextCommand{\textbullet}{PU}{\9040\042} % bullet
12680 \DeclareTextCommand{\textellipsis}{PU}{\9040\046} % ellipsis
12681 \DeclareTextCommand{\textperthousand}{PU}{\9040\060} % perthousand
12682 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061} % pertenthousand
12683 \DeclareTextCommand{\guilsinglleft}{PU}{\9040\071} % guilsinglleft
12684 \DeclareTextCommand{\guilsinglright}{PU}{\9040\072} % guilsinglright
12685 \DeclareTextCommand{\textfractionmark}{PU}{\9040\104} % fraction slash
12686 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160} % superscript zero
12687 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164} % superscript four
12688 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165} % superscript five
12689 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166} % superscript six
12690 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167} % superscript seven
12691 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170} % superscript eight
12692 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171} % superscript nine
12693 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200} % subscript zero
12694 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201} % subscript one
12695 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202} % subscript two
12696 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203} % subscript three
12697 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204} % subscript four
12698 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205} % subscript five
12699 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206} % subscript six
12700 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207} % subscript seven
12701 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210} % subscript eight
12702 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211} % subscript nine
12703 \DeclareTextCommand{\texteuro}{PU}{\9040\254} % Euro
12704 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}
12705 \DeclareTextCommand{\textnumero}{PU}{\9041\026}
12706 \DeclareTextCommand{\texttrademark}{PU}{\9041\042} % trademark
12707 %\DeclareTextCommand{\cyrlangle}{PU}{\9043\051}
12708 %\DeclareTextCommand{\cyrrangle}{PU}{\9043\052}

12709 </puenc>

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50.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

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12710 <*puvnenc>

12711 \DeclareTextCommand{\abreve}{PU}{\81\003}
12712 \DeclareTextCommand{\acircumflex}{PU}{\80\342}
12713 \DeclareTextCommand{\dj}{PU}{\81\021}
12714 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}
12715 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}
12716 \DeclareTextCommand{\ohorn}{PU}{\81\241}
12717 \DeclareTextCommand{\uhorn}{PU}{\81\260}
12718 \DeclareTextCommand{\ABREVE}{PU}{\81\002}
12719 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}
12720 \DeclareTextCommand{\DJ}{PU}{\81\020}
12721 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}
12722 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}

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12723 \DeclareTextCommand{\OHORN}{PU}{\81\240}
12724 \DeclareTextCommand{\UHORN}{PU}{\81\257}

12725 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}
12726 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}
12727 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}
12728 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}
12729 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}
12730 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}
12731 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}
12732 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\261}
12733 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}
12734 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}
12735 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}
12736 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}
12737 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\247}
12738 \DeclareTextCompositeCommand{\h}{PU}{\acircumflex}{\9036\251}
12739 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}
12740 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}
12741 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}
12742 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}
12743 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}
12744 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}
12745 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}
12746 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}
12747 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\301}
12748 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}
12749 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}
12750 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}
12751 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}
12752 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}
12753 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}
12754 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}
12755 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}
12756 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}
12757 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}
12758 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}
12759 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}
12760 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}
12761 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}
12762 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\323}
12763 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}
12764 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}
12765 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}
12766 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}
12767 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\335}
12768 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}
12769 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\341}
12770 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}
12771 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}
12772 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}
12773 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}
12774 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}
12775 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}
12776 \DeclareTextCompositeCommand{\d}{PU}{\uhorn}{\9036\361}
12777 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\353}
12778 \DeclareTextCompositeCommand{\h}{PU}{\uhorn}{\9036\355}
12779 \DeclareTextCompositeCommand{\~}{PU}{\uhorn}{\9036\357}

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12791 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}
12792 \DeclareTextCompositeCommand{'}{PU}{\ABREVE}{\9036\260}
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12836 \DeclareTextCompositeCommand{\d}{PU}{\UHORN}{\9036\360}

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12842 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}
12843 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}
12844 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}
12845 </puvnenc>

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50.4 PU encoding, additions for Arabi

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12846 <*puarenc>
12847 \DeclareTextCommand{\hamza}{PU}{\86\041}% 0621;afii57409;ARABIC LETTER HAMZA
12848 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% 0622;afii57410;ARABIC LETTER ALEF WITH MADDA
12849 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% 0623;afii57411;ARABIC LETTER ALEF WITH HAMZA
12850 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% 0624;afii57412;ARABIC LETTER WAW WITH HAMZA
12851 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% 0625;afii57413;ARABIC LETTER ALEF WITH HAMZA ABOVE
12852 \DeclareTextCommand{\yahamza}{PU}{\86\046}% 0626;afii57414;ARABIC LETTER YEH WITH HAMZA ABOVE
12853 \DeclareTextCommand{\alef}{PU}{\86\047}% 0627;afii57415;ARABIC LETTER ALEF
12854 \DeclareTextCommand{\baa}{PU}{\86\050}% 0628;afii57416;ARABIC LETTER BEH
12855 \DeclareTextCommand{\T}{PU}{\86\051}% 0629;afii57417;ARABIC LETTER TEH MARBUTA
12856 \DeclareTextCommand{\taa}{PU}{\86\052}% 062A;afii57418;ARABIC LETTER TEH
12857 \DeclareTextCommand{\thaa}{PU}{\86\053}% 062B;afii57419;ARABIC LETTER THEH
12858 \DeclareTextCommand{\jeem}{PU}{\86\054}% 062C;afii57420;ARABIC LETTER JEEM
12859 \DeclareTextCommand{\Haa}{PU}{\86\055}% 062D;afii57421;ARABIC LETTER HAH
12860 \DeclareTextCommand{\kha}{PU}{\86\056}% 062E;afii57422;ARABIC LETTER KHAH
12861 \DeclareTextCommand{\dal}{PU}{\86\057}% 062F;afii57423;ARABIC LETTER DAL
12862 \DeclareTextCommand{\dhal}{PU}{\86\060}% 0630;afii57424;ARABIC LETTER THAL
12863 \DeclareTextCommand{\ra}{PU}{\86\061}% 0631;afii57425;ARABIC LETTER REH
12864 \DeclareTextCommand{\zay}{PU}{\86\062}% 0632;afii57426;ARABIC LETTER ZAIN
12865 \DeclareTextCommand{\seen}{PU}{\86\063}% 0633;afii57427;ARABIC LETTER SEEN
12866 \DeclareTextCommand{\sheen}{PU}{\86\064}% 0634;afii57428;ARABIC LETTER SHEEN
12867 \DeclareTextCommand{\sad}{PU}{\86\065}% 0635;afii57429;ARABIC LETTER SAD
12868 \DeclareTextCommand{\dad}{PU}{\86\066}% 0636;afii57430;ARABIC LETTER DAD
12869 \DeclareTextCommand{\Ta}{PU}{\86\067}% 0637;afii57431;ARABIC LETTER TAH
12870 \DeclareTextCommand{\za}{PU}{\86\070}% 0638;afii57432;ARABIC LETTER ZAH
12871 \DeclareTextCommand{\ayn}{PU}{\86\071}% 0639;afii57433;ARABIC LETTER AIN
12872 \DeclareTextCommand{\ghayn}{PU}{\86\072}% 063A;afii57434;ARABIC LETTER GHAIN
12873 \DeclareTextCommand{\tatweel}{PU}{\86\100}% 0640;afii57440;ARABIC TATWEEL
12874 \DeclareTextCommand{\fa}{PU}{\86\101}% 0641;afii57441;ARABIC LETTER FEH
12875 \DeclareTextCommand{\qaf}{PU}{\86\102}% 0642;afii57442;ARABIC LETTER QAF
12876 \DeclareTextCommand{\kaf}{PU}{\86\103}% 0643;afii57443;ARABIC LETTER KAF
12877 \DeclareTextCommand{\lam}{PU}{\86\104}% 0644;afii57444;ARABIC LETTER LAM
12878 \DeclareTextCommand{\meem}{PU}{\86\105}% 0645;afii57445;ARABIC LETTER MEEM
12879 \DeclareTextCommand{\nun}{PU}{\86\106}% 0646;afii57446;ARABIC LETTER NOON
12880 \DeclareTextCommand{\ha}{PU}{\86\107}% 0647;afii57470;ARABIC LETTER HEH
12881 \DeclareTextCommand{\waw}{PU}{\86\110}% 0648;afii57448;ARABIC LETTER WAW
12882 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% 0649;afii57449;ARABIC LETTER ALEF MAKSURA
12883 \DeclareTextCommand{\ya}{PU}{\86\112}% 064A;afii57450;ARABIC LETTER YEH
12884 \DeclareTextCommand{\nasb}{PU}{\86\113}% 064B;afii57451;ARABIC FATHATAN
12885 \DeclareTextCommand{\raff}{PU}{\86\114}% 064C;afii57452;ARABIC DAMMATAN
12886 \DeclareTextCommand{\jarr}{PU}{\86\115}% 064D;afii57453;ARABIC KASRATAN
12887 \DeclareTextCommand{\fatha}{PU}{\86\116}% 064E;afii57454;ARABIC FATHA
12888 \DeclareTextCommand{\damma}{PU}{\86\117}% 064F;afii57455;ARABIC DAMMA

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12889 \DeclareTextCommand{\kasra}{PU}{\86\120}% 0650;afii57456;ARABIC KASRA
12890 \DeclareTextCommand{\shadda}{PU}{\86\121}% 0651;afii57457;ARABIC SHADDA
12891 \DeclareTextCommand{\sukun}{PU}{\86\122}% 0652;afii57458;ARABIC SUKUN

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Farsi

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12892 \DeclareTextCommand{\peh}{PU}{\86\176}% 067E;afii57506;ARABIC LETTER PEH
12893 \DeclareTextCommand{\tcheh}{PU}{\86\206}% 0686;afii57507;ARABIC LETTER TCHEH
12894 \DeclareTextCommand{\jeh}{PU}{\86\230}% 0698;afii57508;ARABIC LETTER JEH
12895 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% 06A9???;afii????;FARSI LETTER KAF
12896 \DeclareTextCommand{\gaf}{PU}{\86\257}% 06AF;afii57509;ARABIC LETTER GAF
12897 \DeclareTextCommand{\farsiya}{PU}{\86\314}% 06CC;afii????;FARSI LETTER YEH

12898 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% 200C;ZWNJ%
12899 \DeclareTextCommand{\noboundary}{PU}{\86\325}% 200D;ZWJ

12900 </puarenc>

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51 End of file hycheck.tex

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12901 < *check>
12902 \typeout{}
12903 \begin{document}
12904 \end{document}
12905 </check>

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