

The l3pdfxform module

Commands for form XObjects

L^AT_EX PDF management testphase bundle

The L^AT_EX Project*

Version 0.96a, released 2023-10-09

1 l3pdfxform documentation

This module contains a number of commands to create “form XObjects”, for which pdf_TE_X introduced the short name “xforms”.

The status is still beta. The dvips route is now better supported but there are open issues if landscape pages are involved or if the objects are larger than the page. With dvips the creation of a form involves typesetting and so can affect spacing.

Probably some of the function will also need to be enhanced by hooks.

<hr/>	<code>\pdfxform_new:nnn</code>	<code>{\langle name \rangle} {\langle attributes \rangle} {\langle content \rangle}</code>
<hr/>	New: 2019-08-05	This command create a new form XObject that can be used as appearance or directly
<hr/>	Updated: 2021-02-14	later. If the $\langle content \rangle$ contains BDC-marks it should <i>not</i> be given as a previously typeset box, but directly so that the names of the BDC-marks can be added to the resources of the xform. The xform will automatically include the resources of the current page. The content will be typeset in a hbox. With pdf _l at _e x and lua _t e _x the surrounding color is <i>not</i> stored in the form XObject but should be if wanted added e.g. with <code>\color_select:n{.}</code> . This keeps the option of color injection open.
<hr/>	<code>\pdfxform_use:n</code>	<code>\pdfxform_use:n {\langle name \rangle}</code>
<hr/>	New: 2019-08-05	This command uses (typesets) a previously created form XObject. If the surrounding color is different, it is injected in the form XObject with the engines pdf _t e _x or lua _t e _x .
<hr/>	<code>\pdfxform_ref:n</code>	<code>\pdfxform_ref:n {\langle name \rangle}</code>
<hr/>	New: 2019-08-05	Inserts the appropriate information to reference the xform $\langle name \rangle$ in for example appearance dictionaries.
<hr/>	<code>\pdfxform_wd:n</code>	<code>\pdfxform_wd:n {\langle name \rangle}</code>
<hr/>	<code>\pdfxform_ht:n</code>	<code>\pdfxform_ht:n {\langle name \rangle}</code>
<hr/>	<code>\pdfxform_dp:n</code>	<code>\pdfxform_dp:n {\langle name \rangle}</code>
<hr/>	New: 2019-08-05	These command give back the sizes of the form XObject. The values are stored in tl-variables with the unit pt and not in dimensions!

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```

\pdfxform_if_exist_p:n ★ \pdfxform_if_exist_p:n {<name>}
\pdfxform_if_exist:nTF ★ \pdfxform_if_exist:nTF <name> {<true code>} {<false code>}

```

New: 2020-04-29 These command tests if an xform with name {<name>} has been already defined.

2 l3pdfxform implementation

```

1 <@@=pdf>
2 <*header>
3 \ProvidesExplPackage{l3pdfxform}{2023-10-09}{0.96a}
4 {command to create xforms (beta)---LaTeX PDF management testphase bundle}
5 </header>

```

2.1 FormXObject (pdfxform)

\pdfxform_new:nnn

```

6 <*package>
7 \cs_new_protected:Npn \pdfxform_new:nnn #1 #2 #3
8 {
9   \__pdf_backend_xform_new:nnnn { #1 } { #2 } { } { #3 }
10 }

```

(End of definition for \pdfxform_new:nnn. This function is documented on page 1.)

\pdfxform_use:n

```

11 \cs_new_protected:Npn \pdfxform_use:n #1
12 {
13   \__pdf_backend_xform_use:n { #1 }
14 }

```

(End of definition for \pdfxform_use:n. This function is documented on page 1.)

\pdfxform_ref:n

\pdfxform_ref:o

```

15 % expansion?
16 \cs_new:Npn \pdfxform_ref:n #1
17 {
18   \__pdf_backend_xform_ref:n { #1 }
19 }
20
21 \cs_generate_variant:Nn \pdfxform_ref:n {o}

```

(End of definition for \pdfxform_ref:n. This function is documented on page 1.)

\pdfxform_wd:n

\pdfxform_ht:n

\pdfxform_dp:n

```

22 \cs_new:Npn \pdfxform_wd:n #1
23 {
24   \tl_use:c { c__pdf_backend_xform_wd_ \tl_to_str:n { #1 } _tl }
25 }
26
27 \cs_new:Npn \pdfxform_ht:n #1
28 {
29   \tl_use:c { c__pdf_backend_xform_ht_ \tl_to_str:n { #1 } _tl }
30 }
31

```

```

32 \cs_new:Npn \pdfxform_dp:n #1
33 {
34   \tl_use:c { c__pdf_backend_xform_dp_ \tl_to_str:n { #1 } _tl }
35 }

(End of definition for \pdfxform_wd:n, \pdfxform_ht:n, and \pdfxform_dp:n. These functions are
documented on page 1.)

\pdfxform_if_exist_p:n The command is defined in the backend (to avoid timing problems).
\pdfxform_if_exist:nTF (End of definition for \pdfxform_if_exist:nTF. This function is documented on page 2.)

36 \endpackage

```

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The italic numbers denote the pages where the corresponding entry is described, numbers underlined point to the definition, all others indicate the places where it is used.

C		
cs commands:		\pdfxform_ht:n 1, <u>22</u> , 27
\cs_generate_variant:Nn 21		\pdfxform_if_exist:nTF 2, <u>36</u>
\cs_new:Npn 16, 22, 27, 32		\pdfxform_if_exist_p:n 2, <u>36</u>
\cs_new_protected:Npn 7, 11		\pdfxform_new:nnn 1, <u>6</u> , 7
		\pdfxform_ref:n 1, <u>15</u> , 16, 21
		\pdfxform_use:n 1, <u>11</u> , 11
		\pdfxform_wd:n 1, <u>22</u> , 22
P		
pdf internal commands:		\ProvidesExplPackage 3
__pdf_backend_xform_new:nnnn 9		
__pdf_backend_xform_ref:n 18		
__pdf_backend_xform_use:n 13		
pdfxform commands:		
\pdfxform_dp:n 1, <u>22</u> , 32		
T		
tl commands:		
\tl_to_str:n 24, 29, 34		
\tl_use:N 24, 29, 34		