

AcroTeX.Net

The `aeb_mlink` Package

AeB Pro Family

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1. Introduction

This package creates multi-line links, a dream that I have had for a number of years. The package `hyperref` does create links, but generally these links cannot be broken across lines, unless the application `pdflatex` is used to create a PDF; however, since my workflow is primarily through Acrobat Distiller, this does me little good.

This package uses the `QuadPoints` entry of the link annotation dictionary to create a bounding region; consequently, **this package requires Acrobat Distiller** to create a PDF. The `QuadPoints` entry in the link annotation is a PDF 1.6 feature, so these multi-line links will work in Adobe Reader 7.0 or later. If viewed in a version of Adobe Reader previous to 7.0, the viewer will use the underlying bounding box, which in the case of this package, is the entire page. *Because the multi-line links don't work for version of Adobe Reader prior to 7.0, this package should be used only when the reading audience has the required version.*

2. Requirements

The following \TeX packages are the major ones required by `aeb_mlink`.

- `eforms`¹ – provides form and link support, à la $\text{Acro}\TeX$.
- `hyperref`² – provides link support, including the commands `\hyperref`, `\hyperlink`, `\href`, `\nameref`, `\Nameref`, and `\href`.
- `soul`³ – a very nice package by Melchior FRANZ, used by `aeb_mlink` to hyphenate links.

3. Package options

There are only two package options—the name of the dvi-to-ps converter application to be used—, these are `dvipsone` and `dvips`.

4. multi-line Link Commands

We define five multi-line hypertext link commands, these are `\mlhypertext`, `\mlhyperlink`, `\mlhyperref`, `\mlnameref`, `\mlNameref`, and `\href`. The first is a basic command that is used in the definitions of the other five.

Note: Because of the way the bounding boxes are constructed, it is best that the bounding rectangle is set on invisible, that is, the linewidth of the boundary line is zero. The `colorlinks` option of `hyperref` should be taken.



The demo file that illustrate all the commands to follow is `mlink_tst.tex`.

¹Part of the AeB distribution; download `acrotex_pack.zip` or `acrotex_exdoc.zip` to get the most current version of AeB at www.math.uakron.edu/~dpstory/webeq.html.

²Now part of the standard distribution of a \TeX system.

³Located at CTAN: `tex-archive/macros/latex/contrib/soul/`

\mlhypertext. A general purpose multi-line link command.

```
\mlhypertext[#1]{#2}
```

Parameter Description: The first parameter is optional, and is used to set the appearance and the actions of the link. The second parameter is the text around which the link is constructed.

Command Description: Sets a hypertext link having a default appearance, and no action. The default appearance is the same as that of `\hyperlink`, the command from `hyperref`. If `colorlinks` option was taken in the `hyperref` package, the text is colored `\@linkcolor` (usually red); otherwise, the text is the default color at the time, and a boundary rectangle is created by `AcroForms` with color `\@linkbordercolor` (usually red).

For example, the following link is constructed using `\mlhypertext`: [Acrobat Distiller, version 7.0 or greater](#) was used to create this PDF document.

```
\mlhypertext[\A{\JS{app.alert("AcroTeX rocks!")}}]{%
{Acrobat Distiller, version~7.0 or greater}}
```

In the above example, the link, shown in [green](#) is broken across lines. Though is is not shown in this example, these links can break a line at a hyphenation point as well. The optional argument is used to create an alert box that appears when the link is clicked.

\mlhyperlink. A multi-line version of the `\hyperlink` command.

```
\mlhyperlink[#1]{#2}{#3}
```

Parameter Description: The first parameter is optional, and is used to set the appearance, but *not the actions* of the link. The second parameter is a named destination, perhaps created by the `\hypertarget` command of `hyperref`. The third parameter is the text around which the link is constructed.

Command Description: This command is the multi-line version of the `hyperref` command, `\hyperlink`. The default appearance is the same as `\hyperlink`, as described above in `\mlhypertext`. The action of this link is to jump to a named destination; the action cannot be changed by defining a different action through the first parameter.

This link uses the `\mlhyperlink` command: [Welcome, . . . to my humble retirement residence, such as it is!](#)

```
\mlhyperlink{retire}{Welcome, $\dots$ to my humble
retirement residence, such as it is!}
```

In this example, the line is broken at a hyphenation, cool! We jump to the named destination, `retire`. On the last page, the following text appears

My humble retirement `\hypertarget{retire}{home}`.
creating the named destination of `retire`.

\mlhyperref. A multi-line version of the `\hyperref` command.

```
\mlhyperref [#1] {#2} {#3}
```

Parameter Description: The first parameter is optional, and is used to set the appearance, but *not the actions* of the link. The second parameter is a label name created by the `\label` command of \TeX . The third parameter is the text around which the link is constructed.

Command Description: This is the multi-line version of the `\hyperref` command, `\hyperref`. The default appearance is the same as `\hyperref`. The action of this link is to jump to a destination created by the `\label` command of the cross-referencing system of \TeX ; the action cannot be changed by defining a different action through the first parameter.

This link uses the `\mlhyperref` command: [Welcome! Welcome to my humble retirement residence, such as it is!](#)

```
\mlhyperref [\ui{linktxtcolor=red}] {retirement}
{Welcome! Welcome to my humble retirement
residence, such as it is!}
```

The user-friendly interface is used to change the appearance of the color of the link text. The second argument is `retirement`, which is the label affixed to the last section of this document,

```
\section{My \textbf{Retirement} Home}\label{retirement}
```

See ['My Retirement Home' on page 8](#).

\mlnameref. A multi-line version of the `\nameref` command.

```
\mlnameref [#1] {#2}
```

Parameter Description: The first parameter is optional, and is used to set the appearance, but *not the actions* of the link. The second parameter is a name of a \TeX label.

Command Description: This is the multi-line version of the `\hyperref` command, `\nameref`. The default appearance is the same as `\hyperref`. The action of this link is to jump to a destination created by the `\label` command of the cross-referencing system of \TeX ; the action cannot be changed by defining a different action through the first parameter.

This link uses the `\mlnameref` command: Please, click the webgreen link to witness [My Retirement Home](#).

```
\mlnameref {retirement}
```

\mlNameref. A multi-line version of the `\hyperref` command, `\Nameref`.

```
\mlNameref [#1] {#2}
```

Parameter Description: The first parameter is optional, and is used to set the appearance, but *not the actions* of the link. The second parameter is a name of a \TeX label.

Command Description: This is the multi-line version of the `\hyperref` command, `\Namehref`. The default appearance is the same as `\hyperref`. The action of this link is to jump to a destination created by the `\label` command of the cross-referencing system of \TeX ; the action cannot be changed by defining a different action through the first parameter.

This link uses the `\mlNamehref` command: Click the link or go to the page, 'My Retirement Home' on page 8.

```
\mlNamehref{retirement}
```

\mlhref. A multi-line version of the `\hyperref` command, `\href`.

```
\mlhref[#1]{#2}{#3}
```

Parameter Description: The first parameter is optional, and is used to set the appearance, but *not the actions* of the link. The second parameter is a URL, while the third parameter is the link text.

Command Description: This is the multi-line version of the `\hyperref` command, `\href`. The default appearance is the same as `\hyperref`. There is one of three actions, depending on the third argument, just as with `\href`. The action cannot be changed by defining a different action through the first parameter.

Uses the `\mlhref` command with URL: [See the educational offerings of the \$\AcroTeX\$ Web Site at the University of Akron](http://www.math.uakron.edu/~dpstory/acrotex.html#educational)

```
\mlhref{%
http://www.math.uakron.edu/~dpstory/acrotex.html#educational}
{See the educational offerings of the  $\AcroTeX$  Web
Site at the University of Akron}
```

Uses the `\mlhref` command with `mailto` URL: My email address at \AcroTeX .Net, [dpstory at acrotex dot net](mailto:dpstory@acrotex.net).

```
\mlhref{mailto:dpstory@acrotex.net}{dpstory at acrotex dot net}
```

If the second argument is a PDF file, the PDF viewer will open it from your local file system, or if you are in a browser, will open it from the web, provided it can find the relative path

```
\mlhref{shameless_ad.pdf}{Here is a
shameless advertisement for  $\AcroTeX$ }.}
```

If the key word 'run:' is used, the link is set up to launch an application. The PDF viewer will attempt to open the file with the application associated with the extension of the file provided.

```
\mlhref{run:\jobname.tex}{This is the source file of this document}.
```

5. Setting the Appearance and Action

The appearance and the action (at least for `\mlhypertext`) can be set through the first optional parameter. The optional parameter takes key-value pairs of two types:

Key-value Pairs. The optional first parameter of each of the form and link commands take two styles of key-values:

1. eForms KVP: This is the key-value system originally developed, where each KVP has the form `\<key>{<val>}`. Through these keys, the appearance and action of a link—if otherwise not restricted—may be set. For example, *AcroTeX can be found at www.acrotex.net, as close as your nearest web browser.*

```
\mlhypertext [\S{U}\W{1}\Color{0 0.6 0}\linktxtcolor{webgreen}
\A{\JS{app.alert("AcroTeX rocks!")}}]{AcroTeX...browser.}
```

The eForms KVP system is explained in the eforms manual, *Support for AcroForms and Links, and for Document JavaScript and Open Page Events*,⁴ where a complete listing of all supported KVPs is found in the appendices.

2. xkeyval KVP: When the `useui` option is taken of the eforms package, key-value pairs are defined of the form `<key> [= <value>]`. The key-value pairs are actually a value of a special eForms key, `\ui`. The value of `\ui` consists of a comma-delimited list of xkeyval key-value pairs. For example, *AcroTeX can be found at www.acrotex.net, as close as your nearest web browser.*

```
\mlhypertext [\ui{%
border=visible,
linestyle=underlined,
bordercolor={0 0.6 0},
linktxtcolor=webgreen,
js={app.alert("AcroTeX rocks!")}}]{AcroTeX...browser.}
```

The xkeyval KVP system is described in the document *Support for AcroForms and Links, and for Document JavaScript and Open Page Events*.⁵

⁴<http://www.math.uakron.edu/~dpstory/acrotex/eformman.pdf>

⁵Loc. cit.

6. My Retirement Home

My humble retirement home.



Now, I simply must get back to my retirement. ☹