

AcroTeX.Net

The aeb_mlink Package

AeB Pro Family

D. P. Story

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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 versions 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 \LaTeX packages are the major ones required by `aeb_mlink`.

- `eforms` provides form and link support, à la \AcroTeX (ctan.org/pkg/acrotex).
- `hyperref` provides link support, including the commands `\hyperref`, `\hyperlink`, `\href`, `\nameref`, `\Nameref`, and `\href`.
- `soul` a very nice package by Melchior FRANZ, used by `aeb_mlink` to hyphenate links (ctan.org/pkg/soul).

3. Package options

There are only two package options—the name of the dvi-to-ps converter application to be used—, these are `dvips` and `dvipson`.¹ The default is `dvips`.

```

\documentclass{article}           \documentclass{article}
\usepackage{xcolor}              \usepackage[designi]{web}
\usepackage[colorlinks]{hyperref} \usepackage[<driver>]{aeb_mlink}
\usepackage[<driver>]{aeb_mlink}

```

Above are two typical preambles for the use of `aeb_mlink`:

- The one on the left inputs `xcolor` (recommended) and `hyperref` explicitly. The `colorlinks` option is recommended for `hyperref`. These two are followed by `aeb_mlink`.
- The preamble representation on the right uses the `web` package, which internally inputs both `xcolor` (if available) and `hyperref` (with `colorlinks` option). Again, `aeb_mlink` comes last.


¹`dvipson.exe` is the dvi-to-ps converter of the Y&Y \TeX System, no longer available, but is used by this author.

Since `eforms` is a required package, the `acrotex` bundle (AeB) is installed; consequently, if you've set up the `web.cfg` configuration file (that accompanies AeB) with either `\ExecuteOptions{dvips}` or `\ExecuteOptions{dvipsone}`, the specification of the `<driver>` is not normally needed.

4. Multi-line link commands

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

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

-  The demo file is `mlink_tst.tex`, it illustrates all the commands - with the exception of `\mlurl` - of this package. The demo file for `\mlurl` is a separate file and is mentioned in [Section 4.7](#).

4.1. `\mlhypertext` (`\mlsetLink`)

A general purpose multi-line link command.

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

```
\mlsetLink[#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: The `eforms` package defines `\mlsetLink` to `\mlhypertext` (this is to conform to the naming conventions of `eforms`). Either command 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).²

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.

²The `web` package changes the default coloring of `hyperref`.

4.2. `\mllink`

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

```
\mllink[#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 `\mllhypertext`. 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 `\mllink` command: Welcome! Welcome, ... to my humble retirement residence, such as it is!

```
\mllink{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`.

4.3. `\mllhyperref`

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

```
\mllhyperref[#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 `LaTeX`. The third parameter is the text around which the link is constructed.

Command Description: This is the multi-line version of `\hyperref`, the command defined by the `hyperref` package. 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 `LaTeX`; the action cannot be changed by defining a different action through the first parameter.

This link uses the `\mllhyperref` command: Welcome! Welcome to my humble retirement residence, such as it is!

```
\mllhyperref[\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 10](#).

4.4. `\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 \LaTeX label.

Command Description: This is the multi-line version of the `hyperref` (`nameref`) 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 \LaTeX ; the action cannot be changed by defining a different action through the first parameter.

This link uses the `\mlnameref` command: Click the link to witness [My Retirement Home](#). The code for this link is seen below:

```
\mlnameref{retirement}
```

4.5. `\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 \LaTeX label.

Command Description: This is the multi-line version of the `hyperref` (`nameref`) 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 \LaTeX ; the action cannot be changed by defining a different action through the first parameter.

This link uses the `\mlnameref` command: Click the link or go to the page, [‘My Retirement Home’ on page 10](#). The code for the link is seen below:

```
\mlnameref{retirement}
```

4.6. `\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.

The next link 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 Acro\neqthinspace\TeX} Web
Site at the University of Akron}
```

Use 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 Acro\neqthinspace\TeX}.
```

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}.
```

4.7. `\mlurl`

A multi-line version of the `\url` command of the `url` package. The `hyperref` modifies this command to make it into an unbreakable link (at least for those using Distiller).

```
\mlurl[#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 URL, the text of the link is the same as the URL.

Command Description: This is the multi-line version of the `url/hyperref` command, `\url`. The default appearance is the same as set by `\hyperref`.

The next link is an example of `\mlurl`: <http://www.math.uakron.edu/~dpstory/acrotex.html#educational>. The code for this link is found below:

```
\mlurl{http://www.math.uakron.edu/~dpstory/acrotex.html#educational}
```

The `url` package typesets the URL in math mode, which makes it very difficult to wrap it to the next line with a hypertext link around it. In math mode, spaces are ignored; consequently, if the URL contains spaces, use `\%20` (with backslash), the URL encoding for the space character. See the Internet reference http://www.w3schools.com/tags/ref_urlencode.asp for a discussion of the **HTML URL ENCODING REFERENCE**.

-  The demo file that illustrate all the commands to follow is `m\link_tst_url.tex`. Additional details and examples are found in this example file.

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 `\langle key \rangle \langle value \rangle`. 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](http://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*,³ 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 `\langle key \rangle [= \langle value \rangle]`. 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](http://www.acrotex.net), as close as your nearest web browser.

³<http://www.math.uakron.edu/~dpstory/acrotex/eformman.pdf>


```
\m\setLink[\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*.⁴

⁴ibid.

6. My Retirement Home

My humble retirement home.



Click image to return from jump

Now, I simply must get back to my retirement. ~~DS~~