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Using LaTeX to Write Grid Forum Documents

1 Abstract

This document provides information about a simple LaTeX style that can be used for writing Grid Forum working documents and IETF RFC-like documents. The simple sytle presented enables the use of LaTeX 2_ε, LyX, latex2html, and ps2pdf for transforming the documents to DVI, PostScript, PDF, and HTML.

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2 Introduction

This document describes a simple LaTeX style that is used to create Grid Forum working documents and IETF RFC-like documents in LaTeX. Using LaTex has the advantages that

- formating is left to LaTeX instead of the user,
- the file can be edited with all editors and not just Microsoft Word,
- use of the times fonts for exporting to PostScript and to PDF, and
- figures, references, and citations can be easily integrated within the document.

A LaTeX rfc.sty is available [1] but we found the one presented here easier to use. The author guidelines for RFC documents can be found at the IETF web cite [2]. Furthermore, we made sure that the style is defined with a minimalistic approach, and that we verified that the style is working in conjunction with LyX and latex2html for transforming the output. Thus, we have not provided a .cls file, because it would have forced us to write .layout files for LyX and .perl files for latex2html. If we find volunteers to do so, we may provide a .cls file in future.

3 Status

The Grid Information Services Working Group has made some of their documents available with the style presented here. So far the style was sufficient to support our requirements of an easy to use LaTeX style that is portable without change to the many LaTeX transformation programs.

4 Availability

This document and the gf-rfc.sty file are available in various formats. We recommend downloading the tar file.

GWD-GIS-007 Writing Working Group Documents in LaTeX
(PS: http://www.mcs.anl.gov/gridforum/gis/latex/GF-latex-rfc.ps)
(PDF: http://www.mcs.anl.gov/gridforum/gis/latex/GF-latex-rfc.pdf)
(HTML: http://www.mcs.anl.gov/gridforum/gis/latex/html/index.html)
(TAR: http://www.mcs.anl.gov/gridforum/gis/latex/latex.gz)

5 The Style File

The style file can be used if the LaTeX instalation on your system is complete and includes the syles listed in Section 5.1. The available commands are listed in Section 5.2.

5.1 Prerequisites

We have provided a simple style file listed in Section 10 of this document. This style file assumes that you have LaTeX 2_ε installed properly and have the following style files added to your environment:

- url
- fullpage
- times
- fancyheadings
- html

5.2 Commands

We have introduced the following simple commands with parameters:

\TITLE - specifies the title of the document.

\AUTHORS - specifies a list of the authors separated by newline.

\CATEGORY - specifies the category of this document such as draft, informational, standard.

\OBSOLETES - specifies the list of documents this working group document makes obsolete.

\DOCUMENTID - specifies the documentation id in the form <working group abbreviation>-WG-<number>}.

\WORKINGGROUP - specifies the list of working group names, such as

- Information Services, Security, Scheduling, Accounting. (For a complete list of working groups please visit http://www.gridforum.org)

To specify the headers for all pages besides the first page, we use the following commands:

\HEADERTITLE - specifies the title of the document in the header. This title may have to be abbreviated to fit the character limit

\HEADERDATE - specifies the date of publication; the month should be abbreviated with the first three letters to avoid confusion between European, American, and other formats.

\HEADERAUTHOR - specifies the name of the author in the header

We have introduced the following simple commands with parameters:

\DOCUMENTTITLE - prints the document title page and sets the headers .

5.3 Example

As an example we show how we created this document:

```
\documentclass[10pt]{article}
\usepackage{gf-rfc}

\begin{document}

\renewcommand{\TITLE}{Using \LaTeX to Write Grid Forum Documents}
\renewcommand{\HEADERTITLE}{Using \LaTeX to write Grid Forum Documents}
\renewcommand{\HEADERDATE}{Dec. 2000}
\renewcommand{\HEADERAUTHOR}{Laszewski}
\renewcommand{\WORKINGGROUP}{Information Services}
\renewcommand{\AUTHORS}{Gregor von Laszewski, ANL}
\renewcommand{\CATEGORY}{informational}
\renewcommand{\OBSOLETES}{none}
\renewcommand{\DOCUMENTID}{GWD-GIS-007}

\DOCUMENTTITLE

\section{Introduction}
...

\end{document}
```

6 LaTeX WYSIWYG Processing

6.1 LyX

LyX is an open source document processor running on many Unix systems, and Windows. LyX encourages an approach to writing based on the structure of your documents, not their appearance. LyX lets you concentrate on writing, leaving details of visual layout to the software, namely, LaTeX. LyX can be downloaded from http://www.lyx.org. This document is also available as LyX document called "GF-latex-rfc.LyX".

6.2 GNU TeXmacs

GNU TeXmacs is a free WYSIWYG scientific text editor which was inspired by both TeXand GNU Emacs. It is also possible to use TeXmacs. It supports the Guile/Scheme extension language, which makes it possible to adapt the user interface to specific needs and even to extend the editor. The author of this document has no experince with TeXmacs. It can be downloaded from http://www.texmacs.org/.

7 Using bibtex for Managing References

We recommend using bibtex to manage your references, because it will be easier for everyone to collect the references so that they can be cited by other documents. The appropriate reference for working group drafts is given next as an example for this document.

```
@TechReport{gwd-gis-007,
author = {Gregor von Laszewski},
title = {Using LATEX to Write Grid Forum Documents},
institution = {Grid Forum},
year = {2000},
type = {Grid Information Services Working Group Document},
number = {GWD-GIS-007},
address={\url{http://www.mcs.anl.gov/gridforum/gis/latex/html/index.html}},
month = dec,
}
```

To demonstrate a Reference in the Reference section we include a self reference [3].

8 Creating PDF files from LaTeX

A variety of programs exist that can easily convert the LaTeX file to PDF. To generate PDF files you may choose:

- ps2pdf, which converts a PostScript file usualy created with dvi2ps to PDF, or
- dvipdf, which creates directly a PDF file from DVI.

It should be noted that in any case the font *times* should be used. The gf-rfc.sty uses the times fonts as default.

9 Makefile

The following Makefile is used to convert a LyX document to PostScript, PDF, and HTML. If you do not use LyX, start with the tex file.

```
FILE=GF-latex-rfc

LYX=/usr/bin/lyx
PS2PDF=/usr/bin/ps2pdf
LATEX2HTML=latex2html

all: clean rfc clean tar
        echo done

rfc:
        rm -f $(FILE).tex
        $(LYX) --export latex $(FILE).lyx
        latex $(FILE)
        bibtex $(FILE)
        latex $(FILE)
        latex $(FILE)
        latex $(FILE)
        dvips $(FILE) -o $(FILE).ps
        rm -f $(FILE).pdf
        $(PS2PDF) $(FILE).ps
        mkdir -p html
        $(LATEX2HTML) -dir html \
        -split 1 \
        -t "GF LaTeX Style" \
        -no_navigation \
        -info "" \
        -show_section_numbers \
        -address "created by Gregor von Laszewski, gregor\@mcs.anl.gov" \
        $(FILE)

tar:    clean
        rm -f latex.tar.gz
        cd ..; tar cvf latex.tar latex
        mv ../latex.tar .
        gzip latex.tar

clean:
        rm -fR  *~ *.aux *.bbl *.blg *.log
```

10 The gf-rfc.sty

The gf-rfc.sty is listed next:

```
\typeout{Grid Forum Working Group Document Format, Dec. 2000}
\typeout{Gregor von Laszewski, Argonne National Laboratory}

\topmargin 0pt
\textheight 8.9in
\oddsidemargin 0pt
```

```
\evensidemargin \oddsidemargin
\marginparwidth 0.5in
\textwidth 6.5in

% For users of A4 paper: The above values are suited for American 8.5x11in
% paper. If your output driver performs a conversion for A4 paper, keep
% those values. If your output driver conforms to the TeX standard (1in/1in),
% then you should add the following commands to center the text on A4 paper:

% \advance\hoffset by -3mm  % A4 is narrower.
% \advance\voffset by  8mm  % A4 is taller.


\usepackage{times}
\usepackage{fancyheadings}

\pagestyle{fancy}
\usepackage{html,url}
\renewcommand{\url}[1]{\htmladdnormallink{#1}{#1}}

% ----------------------------------------------------------------------
\newcommand{\TITLE}{fill in the title}
\newcommand{\HEADERTITLE}{fill in the header title}
\newcommand{\HEADERDATE}{date}
\newcommand{\HEADERAUTHOR}{author}
\newcommand{\DOCUMENTID}{document-id}
% ----------------------------------------------------------------------
\newcommand{\SETHEADER}{%
\lhead{\HEADERAUTHOR\\ \DOCUMENTID}%
\chead{GIS-WG \\ \HEADERTITLE}%
\rhead{Page: \thepage \\ \HEADERDATE }%
}
% ----------------------------------------------------------------------

\newcommand{\WORKINGGROUP}{working group name}
\newcommand{\AUTHORS}{Gregor von Laszewski, ANL}
\newcommand{\OBSOLETES}{number}
\newcommand{\CATEGORY}{informational}

\newcommand{\DOCUMENTTITLE}{
\begin{minipage}[t]{.5\columnwidth}
\begin{flushleft}
\AUTHORS \\
\HEADERDATE
\end{flushleft}
\end{minipage}
\ \
\begin{minipage}[t]{.5\columnwidth}
\begin{flushright}
\WORKINGGROUP \\
Request for Comments: \DOCUMENTID \\
Obsoletes: \OBSOLETES \\
Category: \CATEGORY
```

```
\end{flushright}
\end{minipage}

\thispagestyle{empty}

\bigskip
\begin{center}
{\Large \TITLE}
\end{center}
\bigskip

\SETHEADER

}
```

11 Author' Addresses

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13 Copyright

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References

[1] Ralph Droms. A LaTeX Style for RFCs and Internet Drafts. Internet draft, IETF, Bucknell University, http://www.ietf.org/internet-drafts/2-latex.template, July 1991.

[2] J. Postel and J. Reynolds. Instructions to RFC Authors. Informational 2223, IETF, Network Working Group, http://www.ietf.org/rfc/rfc2223.txt?number=2223, October 1997.

[3] Gregor von Laszewski. Using LaTeX to Write Grid Forum Documents. Grid Information Services Working Group Document GWD-GIS-007, Grid Forum, http://www.mcs.anl.gov/gridforum/gis/latex/html/index.html, December 2000.