A short overview of TEX and its children ...

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This paper tries to give a short overview of the development of TEX. The base frame is taken from the article A brief history of TEX, volume II by Arthur Reutenauer in the proceedings of EuroBachoTEX2007 and his talk there (see references). Additional information is taken from original documentations (see references on page 8) and some review articles. For old, historic information, the historic archive maintained by Ulrik Vieth and hosted on ftp.tug.org (see refs) was very useful. Many thanks for that great archive!

All information is up to the date of the generated pdf. Everything here is without guarantee – this is just to get an overview. Consult the references for further (and/or correct) information!

In the tree views (page 3), every node has a tooltip that shows up when you hover the mouse over it. If your pdf viewer does not support this, go to the end of the document, where every tooltip is written in normal text. (page 9) I tried to make the graph more readable by using colors:

normal (whatever that means)

important developments (only in my opinion) – i. e. engines or distributions that had or have a great impact on (everyday) typesetting for a large community

experimental developments that might still be under construction or were never used by a large community. Nevertheless, these might be very important to the development of other enginges or for use of special typesetting.

other programs that are not directly connected to TEX but are interesting in the overview, are given in black.

Contents

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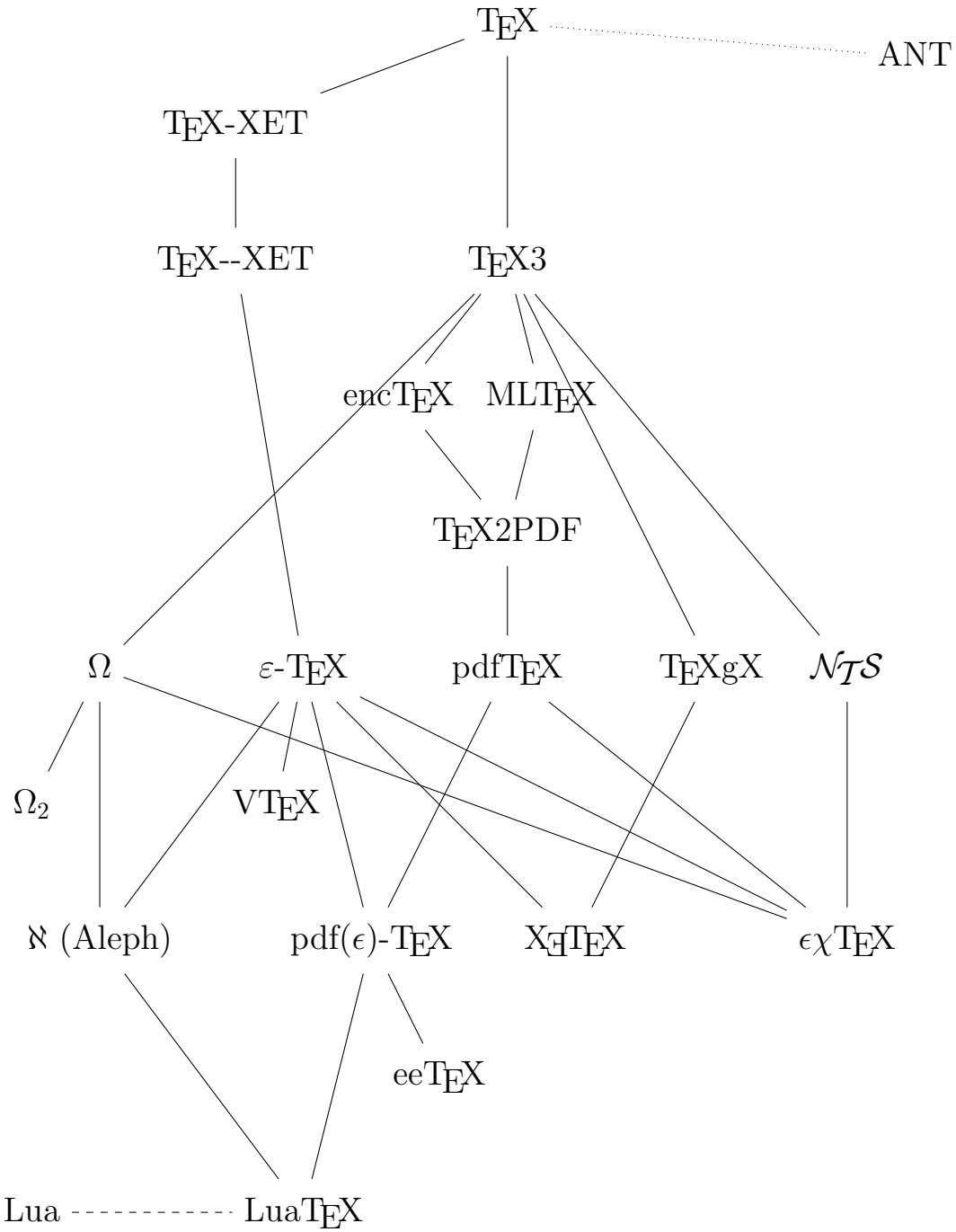
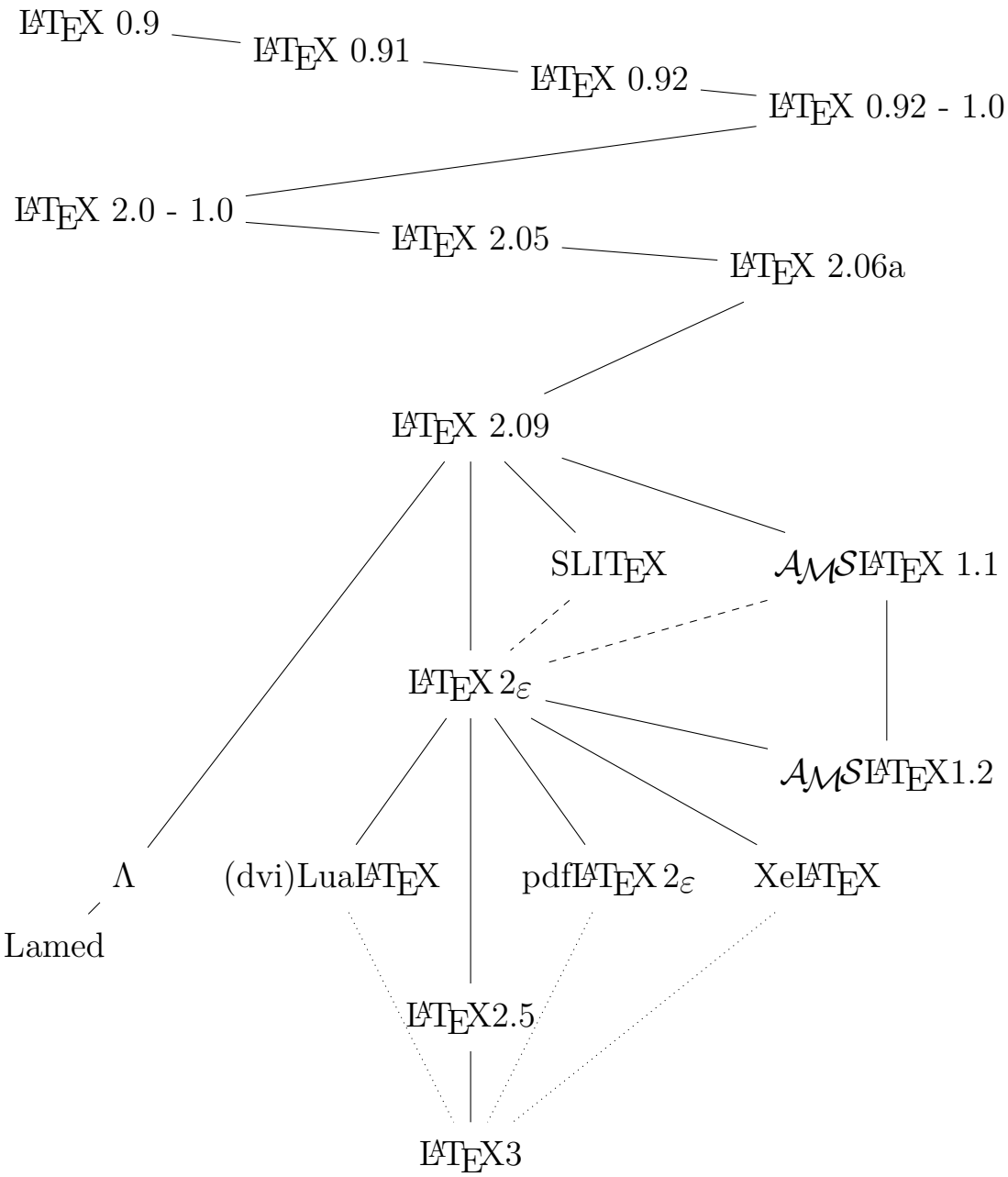
1 Tree View

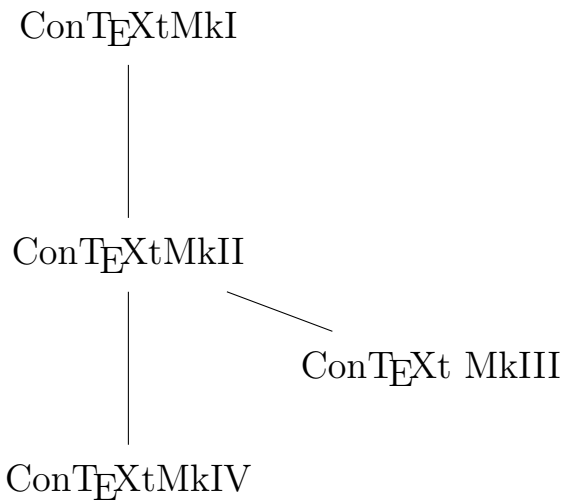
1.1 TEX – the program, and extensions/derivatives



1.2 LaTeX (Lamport's TeX) – a format and large macro package for TeX



1.3 ConTEXt – the other major format and TEX macro package



1.4 TEX's "little" helpers

This is a small section to mention programs that are very helpful and specially designed to support the work with TEX.

BIBTEX

2 References

References

The references are in order of occurance in the above document. I. e. if you want information about LuaTEX, it will be below e. g. ϵTEX.

Books

D.E. Knuth, D. Bibby, and I. Makai. *The TEXbook*. Addison-Wesley Reading, MA, 1986.

F. Mittelbach, M. Goossens, J. Braams, D. Carlisle, C. Rowley, C. Detig, and J. Schrod. *The LATEX companion*. Addison-Wesley, 2004.

Web Sources

Original Documentation – Engines

ANT project page http://ant.berlios.de

MLTEX source (CH file) http://www.tex.ac.uk/tex-archive/systems/generic/mltex/mltex.ch

encTEX page http://www.olsak.net/enctex.html

$\mathcal{NTS}$ project page http://nts.tug.org

VTEX – the only reference I found. http://www.tex.ac.uk/tex-archive/systems/vtex

$\epsilon\chi$TEX project page http://www.extex.org

eeTEX project page http://tex.aanhet.net/eetex

LuaTEX project page http://www.luatex.org

Original Documentation – Makro Packages/Formats

ConTEXt wiki http://wiki.contextgarden.net

LATEX project page http://www.latex-project.org

LATEX3 project http://www.latex-project.org/latex3.html

Overview Articles

Arthur Reutenauer. A Brief History of TEX. Talk at EuroBachoTEX 2007.
http://www.gust.org.pl/bachotex/EuroBachoTeX2007/presentations/bhot.pdf/view

A Brief History of LATEX http://www.xent.com/FoRK-archive/feb98/0307.html

Short Article About Omega And Aleph http://www.tex.ac.uk/cgi-bin/texfaq2html?label=omegaleph

Interview with Will Robertson http://www.tug.org/interviews/robertson.html

Web Archives

Comprehensive TeX Archive Network http://www.ctan.org

Historic Archive of TeX Distributions ftp://ftp.tug.org/historic

3 Text View

3.1 TEX – the program, and extensions/derivatives

TEX

born in 1978

ANT

Ant is Not TeX. A typesetting system inspired by TeX. Only *inspired*, so it has nothing to do with TeX in terms of common code.

TEX-XET

The first extension to TeX, 1987. It was able to typeset in two directions, but only with a mark in the dvi to change the direction.

TEX--XET

TeX–XeT was able to really put the glyphs on the right place in the dvi.

TEX3

Ability to handle 8-bit input. 1989. TeX development was frozen in 1991.

encTEX

A small extension to TeX, started 1997. Adds 10 new primitives relating input re-encoding

MLTEX

Extension (started 1990) to TeX that allows hyphenation of words with accented letters. Distributed as a change file to the original WEB sources of TeX.

TEX2PDF

Early name for pdfTeX.

Ω

Support for unicode-input. Still constrained on the output

ε-TEX

the extension to TeX.

pdfTEX

A new engine to directly produce pdf-files from TeX, without the need of dvi-ps-pdf. This allows to use microtypographic extensions and many other features of the pdf format.

TEXgX

?

$\mathcal{NTS}$

A project to completely reimplement TeX in Java. Now NTS is officially declared dead.

Ω_2

A short-time try to pick up the development of Omega again in 2006. Seemed more like a good plan and is now regarded as obsolete. LuaTeX is kind of a successor.

VTEX

VTeX (only for linux/OS 2) can produce pdf directly from input. In contrast to pdfTeX, it includes a full PostScript interpreter, thus capable to include EPS figures, PStricks etc.

ℵ (Aleph)

originally named epsilon-Omega, an attempt to stabilize Omega while merging epsilon extensions.

XeTeX

This extension enables full multilingual support for left-to-right typesetting, right-to-left and almost any other possible direction. XeTeX also features support for OpenType and AAT-fonts.

eχTeX

Planned implementation of a high-quality typesetting system, written in Java. Based on experiences in NTS, eTeX, pdfTeX and Omega. Started in 2003, current version in repository is 0.0. (i. e. not very far ...)

pdf(ε)-TeX

Merging the pdfTeX engine with the eTeX-extensions. This engine can produce dvi (with or without the eTeX-extensions) as well as pdf (again, with or without extensions).

eeTeX

Experimental extension to pdfeTeX by Taco Hoekwater, created 2000. Distributed as change file.

Lua

Script language; has nothing to do with TeX!

LuaTeX

Still in heavy active development, LuaTeX will support unicode, OpenType and totally everything. It features an embedded scripting language, lua, making it easy to extend.

3.2 LaTeX (Lamport's TeX) – a format and large macro package for TeX

LaTeX 0.9

First version still on web (historic archive, see refs) is 0.9, for use with TeX 0.95. No installation help found. Apparently one needs the files lplain.tex and latex.tex to create the format.

LaTeX 0.91

Version 0.91 for use with TeX 0.97 (C) 1983 by Leslie Lamport. Most changes to previous version are in the file lplain.tex.

LaTeX 0.92

First version with the @ as letter for internal names. Seemlingy first version with a manual. For use with TeX Version 0.999999. (no joke, that's the version number given in the latex.tex file!) (C) 1983 by Leslie Lamport, conversion to 0.92 from 0.91 by Arthur Keller.

LaTeX 0.92 - 1.0

Adaption of 0.92 for TeX version 1.0. (C) 1983 by Leslie Lamport, conversion to 0.92 from 0.91 by Arthur Keller.

LaTeX 2.0 - 1.0

Seemingly heavy changes compared to 0.92. Version for TeX 1.0. Release of 11 Dec 1983. No official version 1.x

LaTeX 2.05

???

LaTeX 2.06a

Release of version 2.06a of the LaTeX macros. September 1984.

LaTeX 2.09

The first official version by Leslie Lamport, 1985.

SLiTeX

A variation of LaTeX2.09 to provide an easy way for producing presentations. In LaTeX2e absorbed as a documentclass (slides).

AMS-LaTeX 1.1

A port of SpivakâĂŹs AMS-TEXto LaTeX 2.09, released 1990

LaTeX 2ε

June 1994: New release of LaTeX to avoid incompatible dialects of LaTeX 2.09. Introduced by the LaTeX3-Team.

AMS-LaTeX1.2

A port of version 1.1 to LaTeX 2e by Downes and Jones.

pdfLaTeX 2ε

The standard LaTeX. If anyone talks about "LaTeX" it is nearly shure to be this package. pdfLaTeX2e produces pdf or dvi output.

XeLaTeX

Using the XeTeX engine. There are some special packages that provide easy access to the modern features of XeTeX.

(dvi)LuaLaTeX

LaTeX based on LuaTeX with pdf (standard) or dvi (dviLuaLaTeX) output. So far, LaTeX support for LuaTeX is not very elaborate.

Λ

A LaTeX-package for the omega-engine.

Lamed

A LaTeX-package for the aleph-engine.

LaTeX2.5

Will Robertson suggested in an interview (see refs) an interim unstable version on the way to LaTeX3 with version number 2.5 that should bring package authors towards using LaTeX3 syntax. This version should be backwards incompatible to LaTeX2e. (This version does not exist in any official plannings, but I liked the idea, so it is mentioned here :))

LaTeX3

The planned successor of LaTeX2e. It is planned to implement a very elaborate low-level programming language. The expl3-package provides a test-implemantation that can be used in LaTeX2e.

3.3 ConTeXt – the other major format and TeX macro package

ConTeXtMkI

Original ConTeXt with Dutch low level interface.

ConTeXtMkII

ConTeXt with English low level interface. Works with any TeX-engine, like LaTeX: TeX, e-TeX, pdfTeX, Aleph, XeTeX, ...

ConTEXt MkIII

Reserved for future use for files supporting XeTeX. Has not been used yet.

ConTEXtMkIV

Specially designed for LuaTeX.

3.4 TEX's "little" helpers

BIBTEX

Very helpful and important tool for creating bibliographies.