UNIVERSITY OF STAVANGER

BACHELOR THESIS

DATBAC

Make the Internet Faster!
Improving Alternative Backoff with ECN in Linux

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January 20, 2020

Abstract

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Chapter 1

Introduction

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1.1 Section

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1.1.1 Subsection

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Chapter 2

Background Theory and Motivation

Chapter 3

Methods

Chapter 4

Experiments and Analysis

Chapter 5

Conclusion

Appendix A

The PI4-Cluster Testbed

A.1 Setting Up Dual Boot

First install Ubuntu. When asked for partitioning the disk, choose manual, select the disk and confirm creating a new empty partition with yes. Select the newly created empty partition followed by create a new partition and set a size for it. The type should be of primary, location at beginning and mounting point root. Finish off with done setting up the partition followed by finish partitioning and write changes to disk.

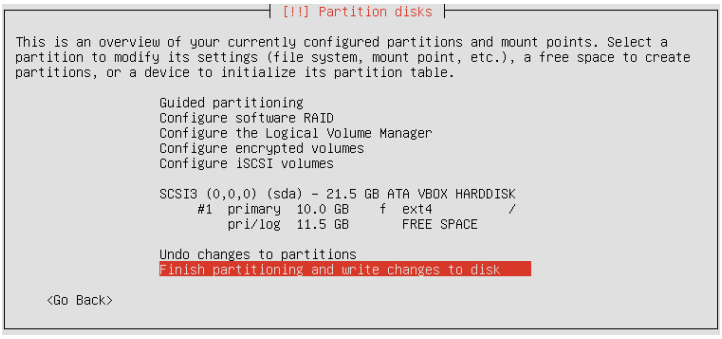

Figure A.1: The partition editor for Ubuntu.

Next, install FreeBSD. When asked for partitioning the disk, choose **auto** (UFS) followed by partition. Set a size, hit ok and finish.

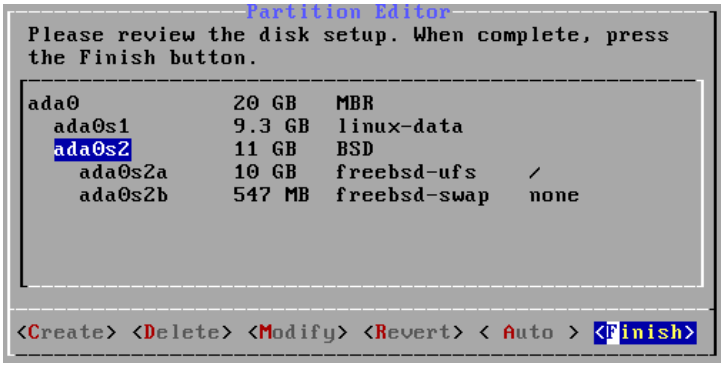

Figure A.2: The partition editor for FreeBSD.

After installing both systems, only Ubuntu is presented in the GRand Unified Bootloader (GRUB). To add FreeBSD as an option, run sudo nano /etc/grub.d/40_custom in Ubuntu, and add the following entry:

```
menuentry "FreeBSD" {
    insmod ufs2
    set root=(hd0,2)
    kfreebsd /boot/loader
}
```

Then update GRUB with sudo update−grub. The FreeBSD option should now be available when rebooting. If the bootloader won't display, hold the RIGHT SHIFT key upon booting.

To enable a one-time reboot into FreeBSD from Ubuntu, run the command grub−editenv /boot/grub/grubenv set next_entry="FreeBSD" and reboot with sudo reboot.

Terms

GRand Unified Bootloader (GRUB) A Multiboot boot loader. It was derived from GRUB, the GRand Unified Bootloader, which was originally designed and implemented by Erich Stefan Boleyn.

Bibliography

[GMS93] Michel Goossens, Frank Mittelbach, and Alexander Samarin. *The LaTeX Companion*. Reading, Massachusetts: Addison-Wesley, 1993.

[Knu] Donald Knuth. *Knuth: Computers and Typesetting*. URL: http://www-cs-faculty.stanford.edu/%5C~%7B%7Duno/abcde.html.