

Aalto University
School of Science
Degree Programme in Computer Science and Engineering

Gonçalo Marques Pestana

Energy Efficiency in High Throughput Computing

Tools, techniques and experiments

Master's Thesis
Espoo, 1 December, 2014

DRAFT! — September 26, 2014 — DRAFT!

Supervisors: Professor Jukka K. Nurminen
Advisor: Zhonghong Ou (Post-Doc.)

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ABSTRACT OF
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Thank you, and keep up the good work!

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Gonçalo Marques Pestana

Abbreviations and Acronyms

2k/4k/8k mode	COFDM operation modes
3GPP	3rd Generation Partnership Project
ESP	Encapsulating Security Payload; An IPsec security protocol
FLUTE	The File Delivery over Unidirectional Transport protocol
e.g.	for example (do not list here this kind of common acronyms or abbreviations, but only those that are essential for understanding the content of your thesis.
note	Note also, that this list is not compulsory, and should be omitted if you have only few abbreviations

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Chapter 1

Introduction

Chapter 2

Background

2.1 High Throughput Computing

2.1.1 Literature review

2.2 CERN and the LHC experiment

2.2.1 Literature review

2.3 Energy performance and measurement

2.3.1 Literature review

In [1] we could show how important energy efficiency is for developers in general

2.4 ARM architecture

2.4.1 Literature review

Chapter 3

Tools and techniques for measuring energy efficiency of scientific software applications

Chapter 4

Experiments

Chapter 5

Conclusions

Bibliography

- [1] PINTO, G., CASTOR, F., AND LIU, Y. D. Mining questions about software energy consumption. In *Proceedings of the 11th Working Conference on Mining Software Repositories* (New York, NY, USA, 2014), MSR 2014, ACM, pp. 22–31.

Appendix A

First appendix

This is the first appendix. You could put some test images or verbose data in an appendix, if there is too much data to fit in the actual text nicely.