

RTX Project Report

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Abstract

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Introduction

Part II

Kernel API

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Scheduler

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Memory Allocator

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System and User Processes

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Part IV

Initialization

Part V

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Timing

Chapter 4

Acquiring Timings

Chapter 5

Timing Analysis

Part VII

What We Learned

Part VIII

Major Design Changes

Appendix A

Raw Measurement Data

A.1 Trial Information

Trial	Total Runtime	Notes
1	4.219	Normal (no stress processes)
2	7.754	Wall clock
3	8.487	Normal (no stress processes)
4	6.5	No Memory Muncher or Release Process
5	30.988	Stress processes

A.2 Function Runtime Profiling

Function	Trial	Time (μs)	# of Calls	Average time / call (μs)
k_sendMessage	1	601.58	552	1.090
k_receiveMessage	1	408.22	565	0.723
k_acquireMemoryBlock	1	244.12	294	0.830
k_sendMessage	2	647.44	594	1.090
k_receiveMessage	2	437.78	606	0.722
k_acquireMemoryBlock	2	258.68	320	0.808
k_sendMessage	3	630.99	579	1.090
k_receiveMessage	3	426.83	591	0.722
k_acquireMemoryBlock	3	259.24	321	0.808
k_sendMessage	4	108.80	100	1.088
k_receiveMessage	4	74.44	110	0.677
k_acquireMemoryBlock	4	92.47	123	0.752
k_sendMessage	5	750.63	687	1.093
k_receiveMessage	5	497.09	693	0.717
k_acquireMemoryBlock	5	329.90	447	0.738