Cache-Aware Memory Allocator

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Abstract

This paper presents the design and implementation of a custom cache-aware memory allocator designed to optimize cache hit rate, with hopes of improving performance on modern hardware architectures. We discuss the rationale behind the approach, the specific strategies employed, as well as test results.

1 Introduction

blah blah blah talk about problems with malloc and how it doesnt care about the cache right now.

2 Motivation

maybe just combine this with intro or go deeper into how we can improve

3 Design

Talk about the buddy tree!!! Super cool figure:

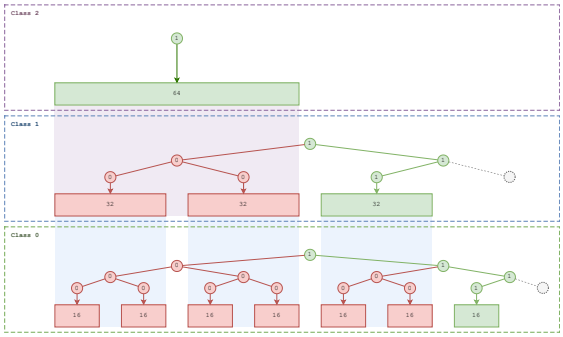

Figure 1: Starting state of thing

Yay that figure is really cool!! We should consider adding more.

4 Implementation

Rylie you should talk about the C code details here a bit (but not too much since people dont need all the details)

5 Testing and Evaluation

TODO I need to actually test and evaluate.

6 Conclusion

In conclusion we actually aren't smarter than malloc people (yet)

References