Metadata Load Balancing Policies and Key-Value Stores

MICHAEL SEVILLA*

ABSTRACT

Enter the text of your abstract here.

1. Introduction

- key-value stores

  1. Fine scale annotation
  2. Scalability
  3. flexible, extensible formats

- science

  1. entropy is increasing
  2. graph showing regimes (key distribution, popularity over time)

Hypothesis: re-distributing keys requires dynamic load balancing policies[1]

2. Background

3. Methodology

a. Parsplice

Part 1: backend KV stores

- Single Node DB (LevelDB, BerkeleyDB)

- Distributed KV store

- HXHIM

Part 2: resulting imbalance

- graphs

- Mantle

- approaches to load balancing

4. Conclusion

1. analysis of Parsplice keyspace

2. using a modern distributed kv store

3. positive effects of Mantle

References

[1] D. Perez, E. D. Cubuk, A. Waterland, E. Kaxiras, and A. F. Voter. Long-Time Dynamics Through Parallel Trajectory Splicing. *Journal of chemical theory and computation.*

---

*Corresponding author address: Los Alamos National Laboratory
E-mail: msevilla@ucsc.edu